

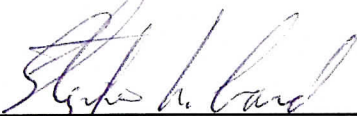


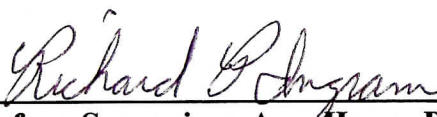
## **North Mississippi Refuges Complex including:**


**Dahomey National Wildlife Refuge, Tallahatchie National Wildlife Refuge and Coldwater River National Wildlife Refuge**

### **Annual Narrative Grenada, Mississippi**

**Calendar Year 2005**

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 3/14/06  
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## INTRODUCTION

The North Mississippi Refuges Complex (NMRC) was established in Grenada, Mississippi in 1989, primarily to manage the increased land base acquired through the transfer of properties to the U.S. Fish and Wildlife Service (Service) by the Farmers Home Administration (FmHA), now the Farm Service Administration, and the acquisition of the **Dahomey, Coldwater River, and Tallahatchie National Wildlife Refuges** (NWR). At that time, there were no other stations in an appropriate geographical location to manage these lands. After several management decisions and boundary changes, NMRC's final geographical boundaries contained 26 counties in northern Mississippi. The Complex is divided into three work areas. Each work area is comprised of one refuge and all FmHA properties within that area (Figure 1).

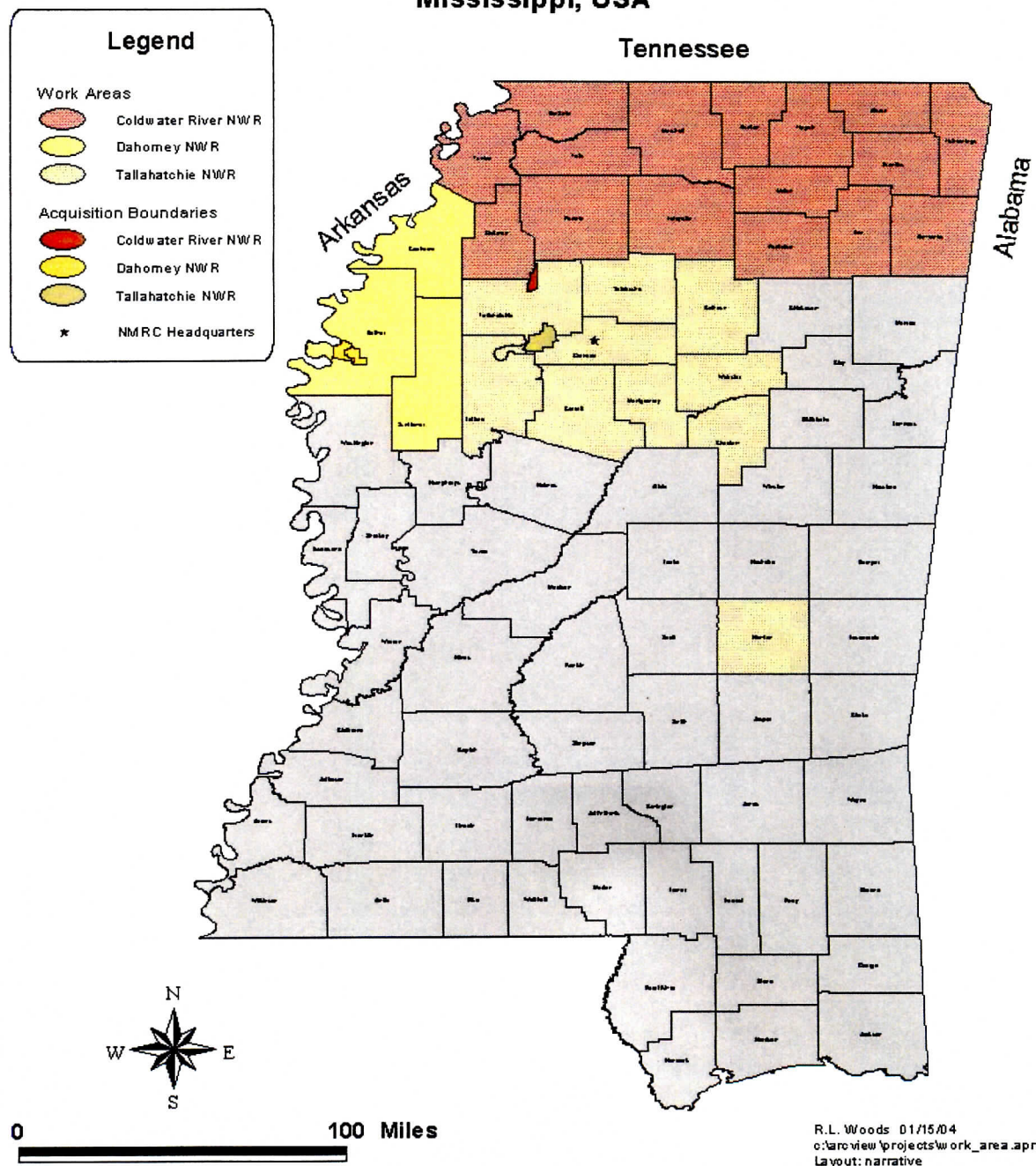
**Farmers Home Administration lands** are properties that the United States Department of Agriculture (USDA) foreclosed on, or the owner voluntarily deeded his land back to the USDA due to lack of payment on loans. The original owner was given the right to buy back the land, but Executive Order 11990 required the wetlands on these properties to be set aside or protected. Most of the properties the original owners did not buy back were transferred in fee title to the Service. Other such properties were purchased by the original owner, but were subject to restrictive USDA easements. Easement management responsibilities of these properties were transferred to the service and are considered units of the National Wildlife Refuge System. These properties range from 1 acre to over 1,000 acres and are categorized as follows:

- 1) **Fee Title Properties:** These properties are now considered public land and are managed as units of the National Wildlife Refuge System.
- 2) **Conservation Easements:** The ownership of these properties remains in the private sector, but the Service retains most management rights. For example, these lands can no longer be farmed and the Service is allowed to mow, install water control structures, build levees, burn, plant seedlings or acorns, and manage water levels.
- 3) **Flood Plain Easements:** The least restrictive of the two easements, the ownership remains in the private sector with restrictions that prohibit degradation of the existing flood plain values. The land owner is usually allowed to farm acreage that was previously in cultivation, but the easement prevents further draining or clearing of the land. These easements often contain, smaller, more restrictive conservation easements within their boundaries.

In 1989, there were four recorded easements for a total land base of 1,070 acres. As of 2005, NMRC manages three traditional **NWRs** totaling 16,148 fee title acres, 48 **FmHA Fee Title** transfers totaling 10,684 acres, 58 **Conservation Easements** totaling 4,368 acres, and 22 **Floodplain Easements** totaling 2,160 acres (Figure 2 and Table 1). The NMRC now manages 128 FmHA tracts and three NWRs totaling 33,360 acres.



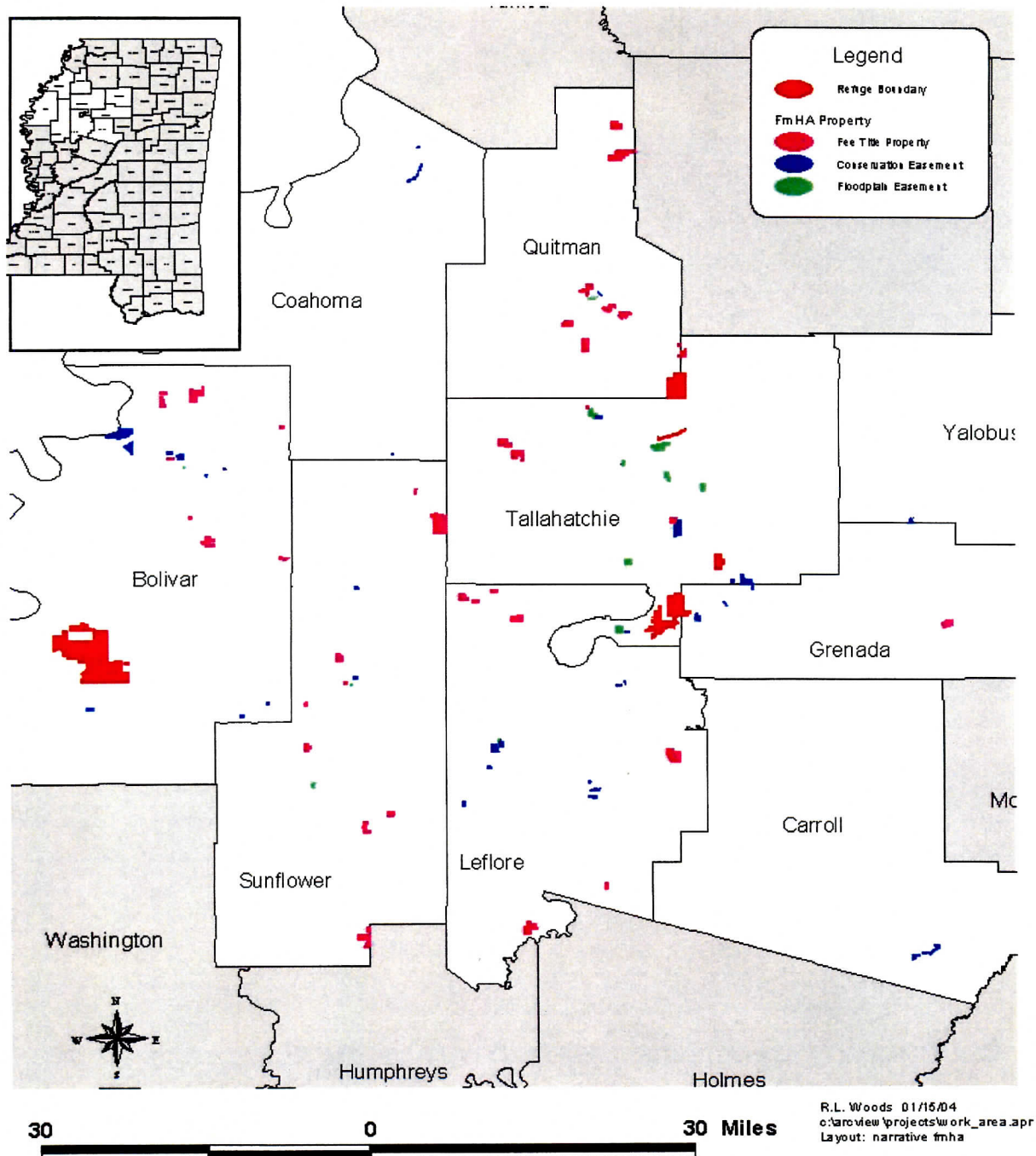
# **North Mississippi Refuges Complex Coldwater River, Dahomey, and Tallahatchie NWR's Mississippi, USA**



**Figure 1. Refuge Work area locations for NMRC.**

## North Mississippi Refuges Complex

Counties containing majority of FmHA properties  
(9 counties, 109 properties shown; 6 counties, 19 properties not shown)



**Figure 2. The nine counties which contain most of the properties administered by NMRC. Six counties with properties are not shown.**



Table 1. Properties managed by the North Mississippi Refuges Complex.

REFUGE PROPERTIES								
NAME	COUNTY	ACRES	ESTATE	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	YEAR ACQUIRED	LAT/LON
Dahomey NWR								
Allen Gray Estate/TNC	BOLIVAR	9,269	Fee Title	CHOCTAW, PACE	BEULAH, LOBDELL	T22N R7W SEC. 17, 19, 22 & 27-34; T21N R7W SEC. 1-4 & 9-12	1993	33°42'N 90°55'W
MS Dept of Trans. (DOT)	BOLIVAR	162	Fee Title	CHOCTAW	LOBDELL	T22N R7W SEC. 34	1991	33°42'N 90°54'W
West Boliver Co. School Board	BOLIVAR	260	Lease	CHOCTAW, PACE	BEULAH, LOBDELL	T22N R7W SEC. 16	N/A	33°45'N 90°09'W
DAHOMEY NWR	TOTAL ACRES		9,691					
Tallahatchie NWR								
Walker Tract	TALLAHATCHIE	557	Fee Title	PHILIPP	CASCILLA	T23N R2E SEC. 21, 22 & 28	1991	30°50'N 90°05'W
John Whitten	GRENADA, TALLAHATCHIE	509	Fee Title	PHILIPP	PHILIPP	T22N R1E SEC.13 & 24; T22N R2E SEC. 18	1992	33°45'N 90°08'W
John Hancock	GRENADA, TALLAHATCHIE	1,361	Fee Title	PHILIPP	PHILIPP	T22N R1E SEC. 1, 12 & 13; T22N R2E SEC. 7 & 18	1992	33°47'N 90°08'W
Chicago Mills/DOT	TALLAHATCHIE	1,656	Fee Title	GREENWOOD, PHILIPP	MONEY, PHILIPP	T22N R1E SEC. 14, 22-27 & 34	1997	33°45'N 90°09'W
TALLAHATCHIE NWR	TOTAL ACRES (Fee Title only)		4,083					
COLDWATER RIVER NWR								
Travelers Insurance	QUITMAN, TALLAHATCHIE	1,730	Fee Title	CROWDER	FISH HOOK LAKE	T26N R2E SEC. 30 & 31; T26N R1E SEC. 25 & 36	1991	34°5'N 90°08'W
Shiele Tract	TALLAHATCHIE	40	Fee Title	CROWDER	CROWDER	T26N R2E SEC. 7	1996	34°8'N 90°08'W
Duck Ponds Inc.	QUITMAN, TALLAHATCHIE	298	Fee Title	CROWDER	FISH HOOK LAKE	T26N R2E SEC. 19; T26N R1E SEC. 24	1996	34°6'N 90°08'W
Warwick Tract	TALLAHATCHIE	306	Fee Title	CROWDER	FISH HOOK LAKE	T25N R1E SEC. 23 & 24; T25N R2E SEC. 18 & 19	2001	
COLDWATER RIVER NWR	TOTAL ACRES		2,374					
FmHA FEE TITLE PROPERTIES								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
CARMICLE	BOLIVAR	40	14.00	PACE	SHELBY	T24N R6W SEC. 26	07/26/91	33°54'N 90°47'W
GOSS	BOLIVAR	543	17.00	MELLWOOD	ROUND LAKE	T26N R6W SEC. 35 & 36; T25N R6W SEC. 2	07/14/94	34°05'N 90°47'W
HESTER, T. III	BOLIVAR	389	13.00	PACE	PACE	T23N R6W SEC. 1	07/26/91	33°52'N 90°46'W
HOLCOMB, D.	BOLIVAR	40	12.00	CLARKSDALE	DUNCAN	T25N R5W SEC. 13	07/26/91	34°02'N 90°40'W
RAY	BOLIVAR	50	18.00	PACE	SHELBY	T25N R6W SEC. 33	09/27/94	33°59'N 90°49'W
RILEY	BOLIVAR	100	11.00	MOUND BAYOU	MERIGOLD	T23N R5W SEC. 13	07/26/91	33°50'N 90°40'W
WATTS, J.	BOLIVAR	214	16.00	MELLWOOD	ROUND LAKE	T25N R6W SEC. 4	07/31/92	34°04'N 90°50'W
WATTS, J.	BOLIVAR	81	16.00	MELLWOOD	ROUND LAKE	T26N R6W SEC. 33	07/31/92	34°04'N 90°49'W
GILLON	GRENADA	245	11.00	GRENADA	GRENADA	T22N R5E SEC. 21	07/14/93	33°45'N 89°46'W
GWIN	LEFLORE	343	16.00	SUMNER	GLENDORA	T22N R2W SEC. 13 & 24	02/19/92	33°45'N 90°21'W
HENSON	LEFLORE	165	19.00	MOSSY LAKE	MONTGOMERY	T17N R1W SEC. 19	07/15/92	33°19'N 90°20'W
HENSON / A.C.O.E.	LEFLORE	275	no	MOSSY LAKE	MONTGOMERY	T17N R1W SEC. 19	?	33°19'N 90°20'W
KIMBROUGH, A.M.	LEFLORE	40	18.00	MOSSY LAKE	MONTGOMERY	T17N R1W SEC. 18	04/18/92	33°19'N 90°20'W
MILLICAN, H.	LEFLORE	2	17.00	SEVEN PINE	SIDON	T18N R1E SEC. 30	03/05/92	33°23'N 90°14'W
MILLICAN, H.	LEFLORE	76	17.00	SEVEN PINE	SIDON	T18N R1E SEC. 31	03/05/92	33°23'N 90°14'W
ROBERTSON	LEFLORE	655	14.00	GREENWOOD	GREENWOOD	T20N R1E SEC. 24 & 25	10/02/90	33°34'N 90°08'W
SCOTT	LEFLORE	226	20.00	SUMNER	BROOKS	T22N R2W SEC. 8	09/01/94	33°47'N 90°25'W
SCOTT	LEFLORE	80	20.00	SUMNER	BROOKS	T22N R2W SEC. 3	09/01/94	33°48'N 90°23'W
SCOTT	LEFLORE	90	20.00	SUMNER	BROOKS	T22N R2W SEC. 9	09/01/94	33°47'N 90°24'W
SMITH, E.	MARSHALL	232	10.00	POTTS CAMP	MALONE	T5S R2W SEC. 28 & 29		34°37'N 89°25'W
WHALEY	MARSHALL	437	11.00	POTTS CAMP	BETHLEHEM	T6S R1W SEC. 6 & 7; T6S R2W SEC.1		34°35'N 89°21'W
BUTLER	QUITMAN	245		TUTWILER	LAMBERT	T27N R1W SEC. 11, 12 & 14	04/01/99	34°13'N 90°15'W
SAVAGE, E.	QUITMAN	59	10.00	TUTWILER	LAMBERT	T27N R1W SEC. 11	11/06/90	34°13'N 90°16'W
SAVAGE, P.	QUITMAN	40	13.00	CROWDER	CROWDER	T26N R1E SEC. 1	09/01/93	34°08'N 90°08'W
SAVAGE, P.	QUITMAN	20	13.00	CROWDER	CROWDER	T26N R1E SEC. 12	09/01/93	34°07'N 90°08'W
STARR, R.	QUITMAN	750	12.00	SLEDGE	CRENSHAW SOUTH	T8S R10W SEC. 1 & 2	06/02/91	34°25'N 90°13'W
STARR, R.	QUITMAN	320	12.00	SLEDGE	CRENSHAW SOUTH	T7S R10W SEC. 23	06/02/91	34°27'N 90°13'W
TRAINOR / BOYD	QUITMAN	382	11.00	TUTWILER	LAMBERT	T26N R1W SEC. 2 & 11	11/06/90	34°09'N 90°15'W
TRAINOR / BOYD	QUITMAN	219	11.00	CROWDER	CROWDER	T27N R1E SEC. 19& 20	11/06/90	34°12'N 90°14'W
TRAINOR / BOYD	QUITMAN	188	11.00	CROWDER	CROWDER	T27N R1E SEC. 20, 21 & 29	11/06/90	34°11'N 90°12'W
TRAINOR / BOYD	QUITMAN	228	11.00	TUTWILER	LAMBERT	T27N R1W SEC. 27	11/06/90	34°10'N 90°17'W
BOWLING	SUNFLOWER	170	14.00	BAIRD	MOOREHEAD	T19N R3W SEC. 29	12/06/91	33°29'N 90°31'W
LINDSEY, L.	SUNFLOWER	160	13.00	CLEVELAND	BOYER	T20N R4W SEC. 17	07/26/91	33°34'N 90°38'W
LINDSEY, L.	SUNFLOWER	40	13.00	CLEVELAND	RULEVILLE	T21N R4W SEC. 14	07/26/91	33°40'N 90°35'W
LINDSEY, L.	SUNFLOWER	204	13.00	CLEVELAND	RULEVILLE	T22N R4W SEC. 3	07/26/91	33°42'N 90°35'W
POVALL / KITCHENS	SUNFLOWER	180	11.00	BAIRD	MOOREHEAD	T19N R4W SEC. 25	11/06/90	33°27'N 90°33'W
POVALL / KITCHENS	SUNFLOWER	422	11.00	BAIRD	INVERNESS	T17N R4W SEC. 24 & 25	11/06/90	33°18'N 90°33'W
POVALL / KITCHENS	SUNFLOWER	80	11.00	BAIRD	INVERNESS	T17N R4W SEC. 13 & 18	11/06/90	33°19'N 90°33'W
WALKER	SUNFLOWER	42	10.00	CLEVELAND	CLEVELAND	T21N R4W SEC. 29	10/02/90	33°38'N 90°38'W
PATTERSON / WHITTEN	SUNFLOWER	46	15.00	SUMNER	ROME	T24N R3W SEC. 15 & 22	09/01/94	33°56'N 90°29'W
WILKINS	SUNFLOWER	1,204	12.00	SUMNER	ROME	T24N R3W SEC. 35 & 36; T23N R3W SEC. 1	05/02/91	33°54'N 90°22'W
CASTLEBERRY	TALLAHATCHIE	94	12.00	CROWDER	CROWDER	T26N R2E SEC. 7	11/01/93	34°07'N 90°07'W
JAMES	TALLAHATCHIE	160	10.00	PHILLIP	TIPPO	T24N R1E SEC. 36	10/11/90	33°54'N 90°08'W
PENNINGTON	TALLAHATCHIE	470	17.00	SUMNER	WEBB & VANCE	T25N R2W SEC.36		33°59'N 90°21'W
PENNINGTON	TALLAHATCHIE	360	17.00	TUTWILER	TUTWILER & VANCE	T25N R2W SEC. 26		34°00'N 90°22'W
PENNINGTON	TALLAHATCHIE	40	17.00	TUTWILER	VANCE	T25N R1W SEC. 2		34°03'N 90°15'W
FOOSHEE / SMITH	UNION	104	10.00	NEW ALBANY	NEW ALBANY WEST	T7S R2E SEC. 32 & 33	07/22/94	34°26'N 89°06'W
FOOSHEE / SMITH	UNION	134	10.00	NEW ALBANY	ETTA, NEW ALBANY WEST	T7S R2E SEC. 31 & 32	07/22/94	34°26'N 89°07'W
48 FEE TITLE PROPERTIES IN 8 COUNTIES		10,684		ACRES				



Table 1 (continued). Properties managed by the North Mississippi Refuges Complex.

FmHA CONSERVATION EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
BELL / CRAB	ALCORN	40	10C	WALNUT	CHALYBEATE	T2S R5E SEC. 29	11/25/91	34°53'N 88°47'W
TURNER / TALLEY	ALCORN	8	11C	CORINTH	KUSSUTH NORTH	T1S R6E SEC. 35	02/22/95	34°57'N 88°37'W
BALDUCCI	BOLIVAR	12	19C	MOUND BAYOU	MOUND BAYOU	T24N R5W SEC. 6	10/13/95	33°58'N 90°45'W
BALDUCCI	BOLIVAR	12	19C	PACE	SHELBY	T24N R6W SEC. 1	10/13/95	33°58'N 90°46'W
BASS, B.H.	BOLIVAR	69	15C	PACE	SHELBY	T25N R6W SEC. 33	04/21/92	33°59'N 90°49'W
BASS, B.H.	BOLIVAR	277	15C	MELLWOOD	LACONIA, ROUND LAKE & SHELBY	T25N R7W SEC. 25 & 36	04/21/92	34°00'N 90°52'W
BASS, B.H.	BOLIVAR	723	15C	MELLWOOD	LACONIA & ROUND LAKE	T25N R7W SEC. 23 & 24	04/21/92	34°01'N 90°52'W
CLIFTON, R.	BOLIVAR	97	10C	CHOCTAW	LOBDELL	T21N R7W SEC. 28	12/18/89	33°08'N 90°55'W
HESTER, T. JR.	BOLIVAR	55		PACE	SHELBY	T25N R8W SEC. 34		33°59'N 90°48'W
HESTER, T. JR.	BOLIVAR	35		PACE	SHELBY	T25N R8W SEC. 34		33°59'N 90°48'W
McCLURE, J.	BOLIVAR	40		CLEVELAND	CLEVELAND	T21N R4W SEC. 26		33°47'N 90°43'W
McCLURE, J.	BOLIVAR	40		CLEVELAND	CLEVELAND	T21N R5W SEC. 33		33°38'N 90°41'W
CALHOUN / DANCE	CARROLL	149	10C	COILA	PEACHAHALA CREEK	T17N R5E SEC. 31 & 32		33°17'N 89°47'W
CALHOUN / DANCE	CARROLL	57	10C	COILA	PEACHAHALA CREEK	T16N R5E SEC. 6		33°16'N 89°49'W
CALHOUN / DANCE	CARROLL	16	10C	COILA	PEACHAHALA CREEK	T17N R5E SEC. 31		33°17'N 89°48'W
ALLEN	COAHOMA	4	11C	MARKS	LULA	T30N R3W SEC. 34		34°25'N 90°29'W
ALLEN	COAHOMA	52	11C	MARKS	LULA	T29N R3W SEC. 10 & 15		34°22'N 90°29'W
ALLEN	COAHOMA	31	11C	MARKS	LULA	T29N R3W SEC. 10 & 11		34°23'N 90°29'W
ALLEN	COAHOMA	30	11C	MARKS, FARRELL	LULA	T29N R3W SEC. 15		34°22'N 90°30'W
SAFLEY / BRADY	COAHOMA	13	10C	MOUND BAYOU	BALTZER	T25N R3W SEC. 32	02/26/90	33°59'N 90°31'W
STATEN	GRENADA	74	12C	PHILIPP	CASCILLA	T22N R2E SEC. 17 & 20		33°45'N 90°06'W
HARRIS, W.L.	GRENADA	18	10C	PHILIPP	CASCILLA	T22N R2E SEC. 10		33°46'N 90°04'W
MOOR, R.B.	LEFLORE	11	15C	GREENWOOD	GREENWOOD	T19N R1W SEC. 12	11/29/90	33°31'N 90°14'W
MOOR, R.B.	LEFLORE	77	15C	SCHLATER	GREENWOOD & SHELLMOUND	T19N R1W SEC. 12	11/29/90	33°31'N 90°15'W
MOOR, R.B.	LEFLORE	17	15C	SCHLATER	SHELLMOUND	T19N R1W SEC. 12	11/29/90	33°31'N 90°15'W
MOOR, R.B.	LEFLORE	58	15C	SCHLATER	GREENWOOD & SHELLMOUND	T19N R1W SEC. 13	11/29/90	33°30'N 90°15'W
TRIBBLE	LEFLORE	12		GREENWOOD	MONEY	T21N R1E SEC. 20		33°40'N 90°12'W
TRIBBLE	LEFLORE	28		GREENWOOD	MONEY	T21N R1E SEC. 20		33°40'N 90°13'W
HAWKINS	LEFLORE	33	12C	SCHLATER	BEAR CUT BAYOU	T20N R2W SEC. 34	09/20/90	33°33'N 90°23'W
KOLLE, R.	LEFLORE	109	10C	SCHLATER	SHELL MOUND	T20N R2W SEC. 23	05/04/90	33°35'N 90°22'W
UPCHURCH / PRESTRIDGE	LEFLORE	250	11C	SCHLATER	BEAR CUT BAYOU	T20N R2W SEC. 22, 26 & 27	10/01/90	33°34'N 90°23'W
SAUNDERS	LEFLORE	15	13C	MOSSY LAKE & SCHLATER	COLONY TOWN	T19N R2W SEC. 20	07/09/90	33°30'N 90°25'W
SAUNDERS	LEFLORE	45	13C	SCHLATER	COLONY TOWN	T19N R2W SEC. 20	07/09/90	33°30'N 90°25'W
GRAHAM, T.	NEWTON	38	10C	not available	DECATUR	T6N R12E SEC. 3 & 4	06/08/92	32°23'N 89°03'W
TRAINOR, E. L.	QUITMAN	6	16C	CROWDER	CROWDER	T27N R1W SEC. 12 & 13	01/01/98	34°13'N 90°14'W
MOSES	SUNFLOWER	25			DREW	T22N R4W SEC. 1		
POWELL	SUNFLOWER	40	16C	CLEVELAND	RULEVILLE	T21N R4W SEC. 11		33°40'N 90°34'W
DAVIS, HIRAM	TALLAHATCHIE	17	13C	PHILIPP	MONEY	T22N R1E SEC. 29	02/15/90	33°44'N 90°12'W
DENMAN	TALLAHATCHIE	8	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°59'N 90°12'W
DENMAN	TALLAHATCHIE	6	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°58'N 90°12'W
DENMAN	TALLAHATCHIE	6	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°58'N 90°12'W
HARRIS, W.L.	TALLA, GRENA	389	10C	PHILIPP	CASCILLA	T23N R2E SEC. 35 & 36; T22N R2E SEC. 1	04/28/89	33°48'N 90°03'W
HARRIS, W.L.	TALLAHATCHIE	40	10C	PHILIPP	CASCILLA	T23N R2E SEC. 34	04/28/89	33°48'N 90°04'W
MABUS	TALLAHATCHIE	42	16C	CROWDER	FISH HOOK LAKE	T25N R1E SEC. 26 & 27		34°00'N 90°10'W
MABUS	TALLAHATCHIE	416	16C	PHILIPP	PHILIPP & TIPPO	T24N R1E SEC. 36; T23N R1E SEC. 1 & 12		33°53'N 90°08'W
MABUS	TALLAHATCHIE	7	16C	PHILIPP	PHILIPP	T23N R1E SEC. 21		33°50'N 90°12'W
MACKEY / GASTON, J.	TALLAHATCHIE	81	11C	CROWDER & TUTWILER	CROWDER	T25N R1W SEC. 12	11/02/90	34°02'N 90°14'W
MILAM	TALLAHATCHIE	3		PHILIPP	TIPPO	T24N R1E SEC. 11	10/22/98	33°57'N 90°09'W
MILAM	TALLAHATCHIE	40		PHILIPP	TIPPO	T24N R1E SEC. 12	10/22/98	33°57'N 90°09'W
SHOOK	TALLAHATCHIE	35	15C	PHILIPP	PAYNES	T24N R2E SEC. 17	07/14/95	33°57'N 90°06'W
BENSON	UNION	76		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°27'N 89°12'W
BENSON	UNION	1		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°27'N 89°12'W
BENSON	UNION	2		NEW ALBANY	ETTA	T7S R1E SEC. 20 & 21	07/01/99	34°27'N 89°12'W
BENSON	UNION	26		NEW ALBANY	ETTA	T7S R1E SEC. 17 & 20	07/01/99	34°28'N 89°13'W
BENSON	UNION	6		NEW ALBANY	ETTA	T7S R1E SEC. 17	07/01/99	34°28'N 89°12'W
BENSON	UNION	2		NEW ALBANY	ETTA	T7S R1E SEC. 17	07/01/99	34°28'N 89°12'W
HARRIS, W.L.	WEBS., CHOC.	515	10C	not available	EUPORA & SAPA	T19N R10E SEC. 9, 10 & 15	04/28/89	33°31'N 89°14'W
HOLLAND / BOONE	YALOBUSHA	37		GRENADA	SCOBAY	T25N R4W SEC. 36		33°59'N 89°49'W
58 CONSERV. EASEMENTS IN 14 COUNTIES		4,368	ACRES					

FmHA FLOODPLAIN EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
HESTER, T. JR.	BOLIVAR	4		PACE	SHELBY	T24N R6W SEC. 3		33°59'N 90°48'W
STATEN	GRENADA	190	12C	PHILIPP	CASCILLA	T22N R2E SEC. 17 & 20	07/14/95	33°45'N 90°06'W
KOLLEE, R.	LEFLORE	191	10C	SCHLATER	SHELL MOUND	T20N R2W SEC. 23	05/04/90	33°53'N 90°22'W
McCLATCHY	MARSHALL	124	12C	TYRO	MARIANNA	T4S R3W SEC. 22		34°43'N 89°30'W
TRAINOR, E. L.	QUITMAN	3		TUTWILER	LAMBERT	T27N R1W SEC. 13 & 14	01/01/98	34°12'N 90°15'W
TRAINOR, E. L.	QUITMAN	16		CROWDER & TUTWILER	CROWDER & LAMBERT	T27N R1W SEC. 13	01/01/98	34°12'N 90°15'W
POWELL	SUNFLOWER	1		CLEVELAND	RULEVILLE	T21N R4W SEC. 14		
POWELL	SUNFLOWER	7		CLEVELAND	RULEVILLE	T21N R4W SEC. 14		33°40'N 90°34'W
POWELL	SUNFLOWER	21		CLEVELAND	BOYER & SUNFLOWER	T20N R4W SEC. 32		33°31'N 90°37'W
POWELL	SUNFLOWER	24		CLEVELAND	BOYER	T19N R4W SEC. 5		33°31'N 90°37'W
DAVIS, HIRAM	TALLAHATCHIE	240	13C	PHILIPP	MONEY	T22N R1E SEC. 29		33°44'N 90°13'W
DENMAN	TALLAHATCHIE	77	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°58'N 90°12'W
MABUS	TALLAHATCHIE	429	16C	CROWDER	FISH HOOK LAKE	T25N R1E SEC. 25 & 26		34°00'N 90°09'W
MABUS	TALLAHATCHIE	168	16C	PHILIPP	PHILIPP	T23N R1E SEC. 20 & 21		33°50'N 90°12'W
MACKEY / GASTON, J.	TALLAHATCHIE	217	11C	CROWDER & TUTWILER	CROWDER & VANCE	T25N R1W SEC. 12	11/02/90	34°03'N 90°15'W
MILAM	TALLAHATCHIE	160		PHILIPP	TIPPO	T24N R1E SEC. 11 & 12	10/22/98	33°57'N 90°09'W
SHOOK	TALLAHATCHIE	160	15C	PHILIPP	PAYNES	T24N R2E SEC. 17	07/14/95	33°56'N 90°06'W
BENSON	UNION	43		NEW ALBANY	ETTA	T7S R1E SEC. 17	07/01/99	34°28'N 89°12'W
BENSON	UNION	36		NEW ALBANY	ETTA	T7S R1E SEC. 20	07/01/99	34°27'N 89°13'W
BENSON	UNION	36		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°28'N 89°13'W
BENSON	UNION	13		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°27'N 89°12'W
22 FLOODPLAIN EASEMENTS IN 9 COUNTIES		2,160	ACRES					



The majority of the lands in the NMRC are within the Mississippi River Alluvial Valley (MAV), referred to locally as the “Delta” where topography is relatively flat and the soil consists of heavy clay hydric soils that have been subject to extensive clearing and drainage efforts. Originally, these lands were bottomland hardwood forest comprised of species such as bald cypress, water oak, willow oak, nuttall oak, overcup oak, water hickory, tupelo gum, red maple, sweet gum, green ash, cottonwood, black willow, and cane.

Since the NMRC was established, the thrust has been the creation, restoration and enhancement of wetlands on public and private lands. Most of the station’s work has been on properties managed by the Service, but oftentimes, we assist and work with diverse stakeholders such as the Mississippi Department of Wildlife, Fisheries and Parks (MDWFP), the Mississippi Department of Transportation (MDOT), Ducks Unlimited (DU), the Delta Wildlife Foundation, the U.S. Army Corps of Engineers (CORP), USDA Forest Service, private and cooperate landowners, and we assist local K-12 school’s effort to provide an outdoor environmental classroom program. Projects with these agencies and organizations are usually done through Partners Projects and habitat management agreements. With few exceptions, NMRC’s contributions on projects with these stakeholders consists of constructing earthen levees, installing water control structures (WCS) and planting bottomland hardwood seedlings. The NMRC complex has grown rapidly, and provides habitat for large concentrations of wintering waterfowl and numerous species of migrants landbirds.



**Egret nests on the Gillon FmHA tract administered by the North Mississippi Refuges Complex (Photo/USFWS).**

## Dahomey National Wildlife Refuge

**Dahomey NWR** is located in Bolivar County, Mississippi in the western part of the NMRC near the Mississippi River (Figures 1 and 3). The Dahomey NWR work area contains 4,005 acres of fee title FmHA properties, 1,554 acres of conservation easements, and 57 acres of floodplain easements (Table 2). In 1990, the Nature Conservancy purchased 9,269 acres from the Allen Gray Estate and leased the land back to the Service for management. In 1993, the Service completed acquisition of the Nature Conservancy lands. One additional 162-acre tract was purchased by the MDOT and turned over to the Service in 1991. A 260-acre 16<sup>th</sup> section tract is leased from the West Bolivar School Board bringing the land base total to 9,691 acres.

Staffing and management of Dahomey began on a limited basis in 1991. Dahomey is presently staffed by Refuge Manager Alejandro Galvan and Engineering Equipment Operator Don Roby.

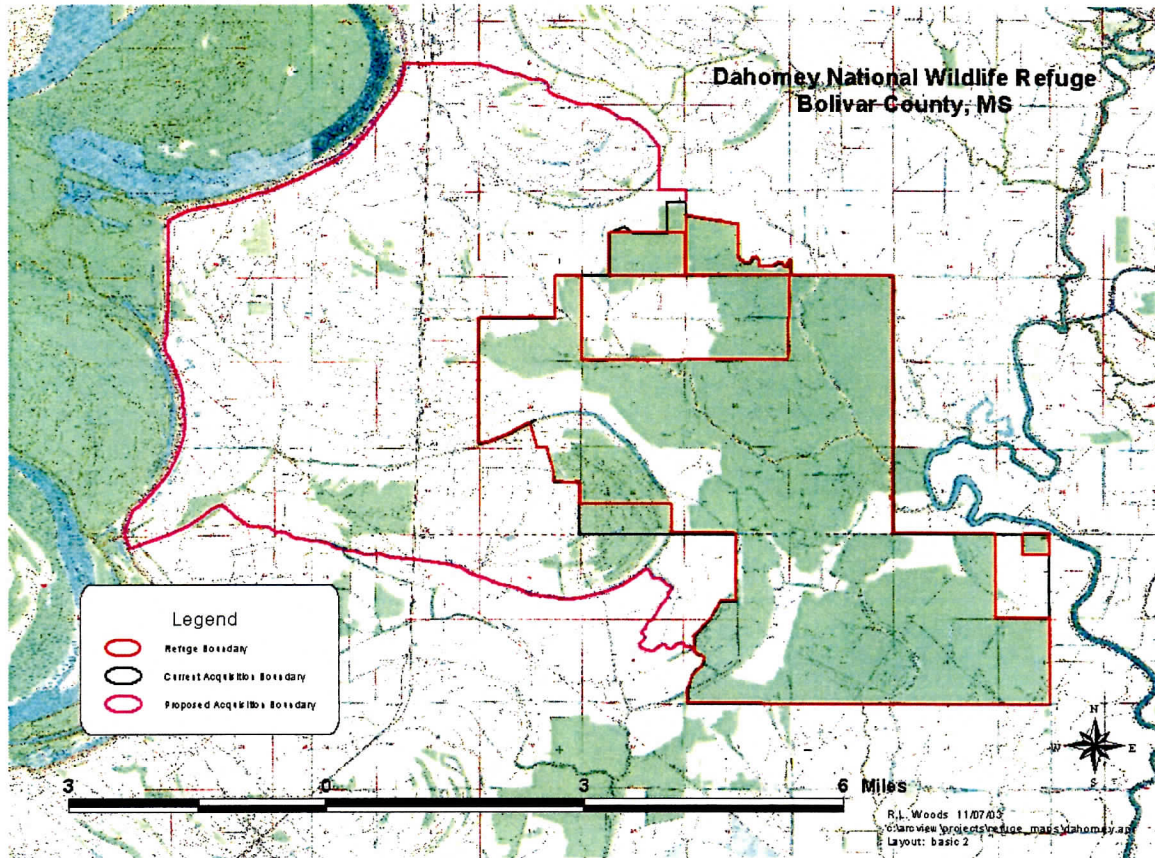
The primary goal of the NMRC is to maintain, manage, enhance, and restore the values and functions of the alluvial habitats within the Dahomey NWR. The primary habitat that historically occurred in the alluvial plain of the lower MAV was bottomland hardwoods. Historically, bottomland hardwoods extended hundreds of miles across this ecosystem. These expansive areas of bottomland hardwoods were subject to frequent periods of inundation. However, due to flood protection provided by Mississippi levee and drainage projects about 80% of this area in the lower MAV was cleared and converted primarily to agricultural fields.

Habitats managed by Dahomey consist of 8,348 acres of bottomland hardwoods, 537 acres of fallow fields, 275 acres of moist soil and 531 acres of agricultural fields. Dahomey's 8,348 acres of woodlands is the largest contiguous tract of bottomland hardwood habitat occurring outside the Mississippi River main-line levee in northwest Mississippi. Dahomey's forest lands are thus extremely valuable to many forms of wildlife. The Lower Mississippi Valley Joint Venture has identified Dahomey as being one of the top five priority sites for wintering waterfowl in the state of Mississippi.

During a 40-year period prior to Service ownership, Dahomey's 8,348-acre hardwood forest was subjected to intensive timber harvesting. However, it was never clear cut. Instead, it was allowed to naturally regenerate. Dahomey's forest land is a relic of a habitat type that was once dominant throughout the lower MAV. Stream channelization and levee construction activities that have occurred within the vicinity of Dahomey have reduced historical flooding regimes to the point that a significant portion of the habitat within Dahomey is no longer subject to periods of seasonal inundation. Therefore, one of the NMRC's objectives for Dahomey NWR is to restore and manage seasonal hydroperiods within its wetland habitat.

During 1994, the NMRC installed levees, pipes, and water control structures in two streams occurring within Dahomey NWR, which created a 700-acre green tree reservoir. During 1999, the NMRC converted an 85-acre agricultural field into a moist soil impoundment.





**Figure 3. Dahomey National Wildlife Refuge**

In 2001, a joint project with DU was completed with the construction of levees and the installation of water control structures resulting in complete water management of two units totaling 223 acres. We anticipate that on an annual basis, agricultural crops will be grown on one of the units and the other unit will be devoted to a moist soil area. The fields then will be rotated during the next growing season. Also, the NMRC floods rice fields that are farmed by cooperative farmers. When these habitats are flooded during winter months, they provide quality habitat for thousands of migrating and wintering waterfowl (primarily mallards, gadwalls, American wigeon, and wood ducks).

The NMRC intends to further its management efforts for waterfowl and other waterbirds by restoring and managing seasonal hydroperiods within more of Dahomey's habitats. For example, the NMRC is planning to develop greentree reservoirs, manage water levels in shrub swamps and construct moist-soil impoundments within more agricultural fields. The forest habitat management plan that was completed in 2001 provides the necessary mechanism for the NMRC to manage forest habitat in a manner that will benefit forest interior landbirds.



Table 2. Properties managed Dahomey National Wildlife Refuge.

REFUGE PROPERTIES								
NAME	COUNTY	ACRES	ESTATE	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	YEAR ACQUIRED	LAT/LON
<b>Dahomey NWR</b>								
Allen Gray Estate/TNC	BOLIVAR	9,269	Fee Title	CHOCTAW, PACE	BEULAH, LOBDELL	T22N R7W SEC. 17, 19, 22 & 27-34; T21N R7W SEC. 1-4 & 9-12	1993.00	33°42'N 90°55'W
MS Dept of Trans. (DOT)	BOLIVAR	162	Fee Title	CHOCTAW	LOBDELL	T22N R7W SEC. 34	1991.00	33°42'N 90°54'W
West Bolivar Co. School Board	BOLIVAR	260	Lease	CHOCTAW, PACE	BEULAH, LOBDELL	T22N R7W SEC. 16	N/A	33°45'N 90°09'W
<b>DAHOMNEY NWR</b>	<b>TOTAL ACRES</b>	<b>9,691</b>						

FmHA FEE TITLE PROPERTIES								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
CARMICLIE	BOLIVAR	40	14.00	PACE	SHELBY	T24N R6W SEC. 26	07/26/91	33°54'N 90°47'W
GOSS	BOLIVAR	543	17.00	MELLWOOD	ROUND LAKE	T26N R6W SEC. 35 & 36; T25N R6W SEC. 2	07/14/94	34°05'N 90°47'W
HESTER, T. III	BOLIVAR	389	13.00	PACE	PACE	T23N R6W SEC. 1	07/26/91	33°52'N 90°46'W
HOLCOMB, D.	BOLIVAR	40	12.00	CLARKSDALE	DUNCAN	T25N R5W SEC. 13	07/26/91	34°02'N 90°40'W
RAY	BOLIVAR	50	18.00	PACE	SHELBY	T25N R6W SEC. 33	09/27/94	33°59'N 90°49'W
RILEY	BOLIVAR	100	11.00	MOUND BAYOU	MERIGOLD	T23N R5W SEC. 13	07/26/91	33°50'N 90°40'W
WATTS, J.	BOLIVAR	214	16.00	MELLWOOD	ROUND LAKE	T25N R6W SEC. 4	07/31/92	34°04'N 90°50'W
WATTS, J.	BOLIVAR	81	16.00	MELLWOOD	ROUND LAKE	T26N R6W SEC. 33	07/31/92	34°04'N 90°49'W
BOWLING	SUNFLOWER	170	14.00	BAIRD	MOOREHEAD	T19N R3W SEC. 29	12/06/91	33°29'N 90°31'W
LINDSEY, L.	SUNFLOWER	160	13.00	CLEVELAND	BOYER	T20N R4W SEC. 17	07/26/91	33°34'N 90°38'W
LINDSEY, L.	SUNFLOWER	40	13.00	CLEVELAND	RULEVILLE	T21N R4W SEC. 14	07/26/91	33°40'N 90°35'W
LINDSEY, L.	SUNFLOWER	204	13.00	CLEVELAND	RULEVILLE	T22N R4W SEC. 3	07/26/91	33°42'N 90°35'W
POVALL / KITCHENS	SUNFLOWER	180	11.00	BAIRD	MOOREHEAD	T19N R4W SEC. 25	11/06/90	33°27'N 90°33'W
POVALL / KITCHENS	SUNFLOWER	422	11.00	BAIRD	INVERNESS	T17N R4W SEC. 24 & 25	11/06/90	33°18'N 90°33'W
POVALL / KITCHENS	SUNFLOWER	80	11.00	BAIRD	INVERNESS	T17N R4W SEC. 13 & 18	11/06/90	33°19'N 90°33'W
WALKER	SUNFLOWER	42	10.00	CLEVELAND	CLEVELAND	T21N R4W SEC. 29	10/02/90	33°38'N 90°38'W
PATTERSON / WHITTEN	SUNFLOWER	46	15.00	SUMNER	ROME	T24N R3W SEC. 15 & 22	09/01/94	33°56'N 90°29'W
WILKINS	SUNFLOWER	1,204	12.00	SUMNER	ROME	T24N R3W SEC. 35 & 36; T23N R3W SEC. 1	05/02/91	33°54'N 90°22'W
<b>18 FEE TITLE PROPERTIES IN 2 COUNTIES</b>		<b>4,005</b>	<b>ACRES</b>					

FmHA CONSERVATION EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
BALDUCCI	BOLIVAR	12	19C	MOUND BAYOU	MOUND BAYOU	T24N R5W SEC. 6	10/13/95	33°58'N 90°45'W
BALDUCCI	BOLIVAR	12	19C	PACE	SHELBY	T24N R6W SEC. 1	10/13/95	33°58'N 90°46'W
BASS, B.H.	BOLIVAR	69	15C	PACE	SHELBY	T25N R6W SEC. 33	04/21/92	33°59'N 90°49'W
BASS, B.H.	BOLIVAR	277	15C	MELLWOOD	LACONIA, ROUND LAKE & SHELBY	T25N R7W SEC. 25 & 36	04/21/92	34°00'N 90°52'W
BASS, B.H.	BOLIVAR	723	15C	MELLWOOD	LACONIA & ROUND LAKE	T25N R7W SEC. 23 & 24	04/21/92	34°01'N 90°52'W
CLIFTON, R.	BOLIVAR	97	10C	CHOCTAW	LOBDELL	T21N R7W SEC. 28	12/18/89	33°08'N 90°55'W
HESTER, T. JR.	BOLIVAR	55		PACE	SHELBY	T25N R6W SEC. 34		33°59'N 90°48'W
HESTER, T. JR.	BOLIVAR	35		PACE	SHELBY	T25N R6W SEC. 34		33°59'N 90°48'W
McCLURE, J.	BOLIVAR	40		CLEVELAND	CLEVELAND	T21N R4W SEC. 26		33°47' N 90°43'W
McCLURE, J.	BOLIVAR	40		CLEVELAND	CLEVELAND	T21N R5W SEC. 33		33°38'N 90°41'W
ALLEN	COAHOMA	4	11C	MARKS	LULA	T30N R3W SEC. 34		34°25'N 90°29'W
ALLEN	COAHOMA	52	11C	MARKS	LULA	T29N R3W SEC. 10 & 15		34°22'N 90°29'W
ALLEN	COAHOMA	31	11C	MARKS	LULA	T29N R3W SEC. 10 & 11		34°23'N 90°29'W
ALLEN	COAHOMA	30	11C	MARKS, FARRELL	LULA	T29N R3W SEC. 15		34°22'N 90°30'W
SAFLEY / BRADY	COAHOMA	13	10C	MOUND BAYOU	BALTZER	T25N R3W SEC. 32	02/26/90	33°59'N 90°31'W
MOSES	SUNFLOWER	25		MOUND BAYOU	MOUND BAYOU	T22N R4W SEC. 1	08/30/64	33°48'N 90°36'W
POWELL	SUNFLOWER	40	16C	CLEVELAND	RULEVILLE	T21N R4W SEC. 11		33°40'N 90°34'W
<b>17 CONSERV. EASEMENTS IN 3 COUNTIES</b>		<b>1,554</b>	<b>ACRES</b>					

FmHA FLOODPLAIN EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
HESTER, T. JR.	BOLIVAR	4		PACE	SHELBY	T24N R6W SEC. 3		33°59'N 90°48'W
POWELL	SUNFLOWER	1		CLEVELAND	RULEVILLE	T21N R4W SEC. 14		
POWELL	SUNFLOWER	7		CLEVELAND	RULEVILLE	T21N R4W SEC. 14		33°40'N 90°34'W
POWELL	SUNFLOWER	21		CLEVELAND	BOYER & SUNFLOWER	T20N R4W SEC. 32		33°31'N 90°37'W
POWELL	SUNFLOWER	24		CLEVELAND	BOYER	T19N R4W SEC. 5		33°31'N 90°37'W
<b>4 FLOODPLAIN EASEMENTS IN 2 COUNTIES</b>		<b>57</b>	<b>ACRES</b>					

01/03/01



Dahomey's 8,348 acre bottomland hardwood forest provides important habitat for numerous species of migratory landbirds such as Mississippi kite, summer tanager, ruby-throated hummingbird, wood thrush, hermit thrush, yellow-billed cuckoo, blue-gray gnatcatcher, great crested flycatcher, eastern wood-pewee, Acadian flycatcher, hooded warbler, prothonotary warbler, Swainson's warbler, white-eyed vireo, and red-eyed vireo. The refuge has been identified by Partners in Flight as a priority area in the lower MAV for rare or declining migratory landbirds. As such, Dahomey is a landmark for birdwatchers.

Dahomey NWR has had a hunting program since 1993. Numerous sportsmen participate in deer, turkey, squirrel and rabbit hunting. Several trophy quality white-tailed deer have been harvested, resulting in a reputation for having quality deer and has become a favorite hunting place for many deer hunters. In 1998, for the first time, the NMRC established a waterfowl hunting season at Dahomey. During the waterfowl season, hunters can hunt on Wednesdays, Saturdays and Sundays until noon.

Flocks of twenty or more wild turkeys are seen regularly during the fall and winter on Dahomey NWR. In the winter, six species of woodpeckers can be seen along with barred, great horned, screech, and short-eared owls. Dahomey NWR is truly an island of forested wetlands in a sea of agricultural lands and represents a vestige of natural habitats in the northwestern part of Mississippi.



**Mallards using a moist soil unit at Dahomey NWR. (A. Galvan/USFWS)**

## Tallahatchie National Wildlife Refuge

When established, the **Tallahatchie NWR** consisted of the Bear Lake and Black Bayou Units. In 2000, these two units were officially separated into individual refuges. The Bear Lake Unit retained the name of Tallahatchie NWR and the Black Bayou Unit is now the Coldwater River NWR.

Tallahatchie NWR is a 4,083-acre patchwork of cultivated farmlands, reforested old fields and small scattered tracts of bottomland hardwood forest bisected by the meandering Tippecanoe Bayou (Figure 4). The refuge work area consists of 3,227 acres of fee title properties, 2,649 acres of conservation easements and 1,832 acres of floodplain easements (Figure 1 and Table 3). The old oxbows and low-lying fields along Tippecanoe Bayou flood each winter and hold large concentrations of waterfowl. The unit also supports a healthy deer herd. Wood ducks, Eastern screech owls, barred owls, great-horned owls, loggerhead shrikes, and red-tailed hawks are common year-round residents. Blue grosbeaks, dickcissels, and painted buntings can be seen during summer. Most of the agriculture land (628 acres) is devoted to soybeans, corn, and rice.

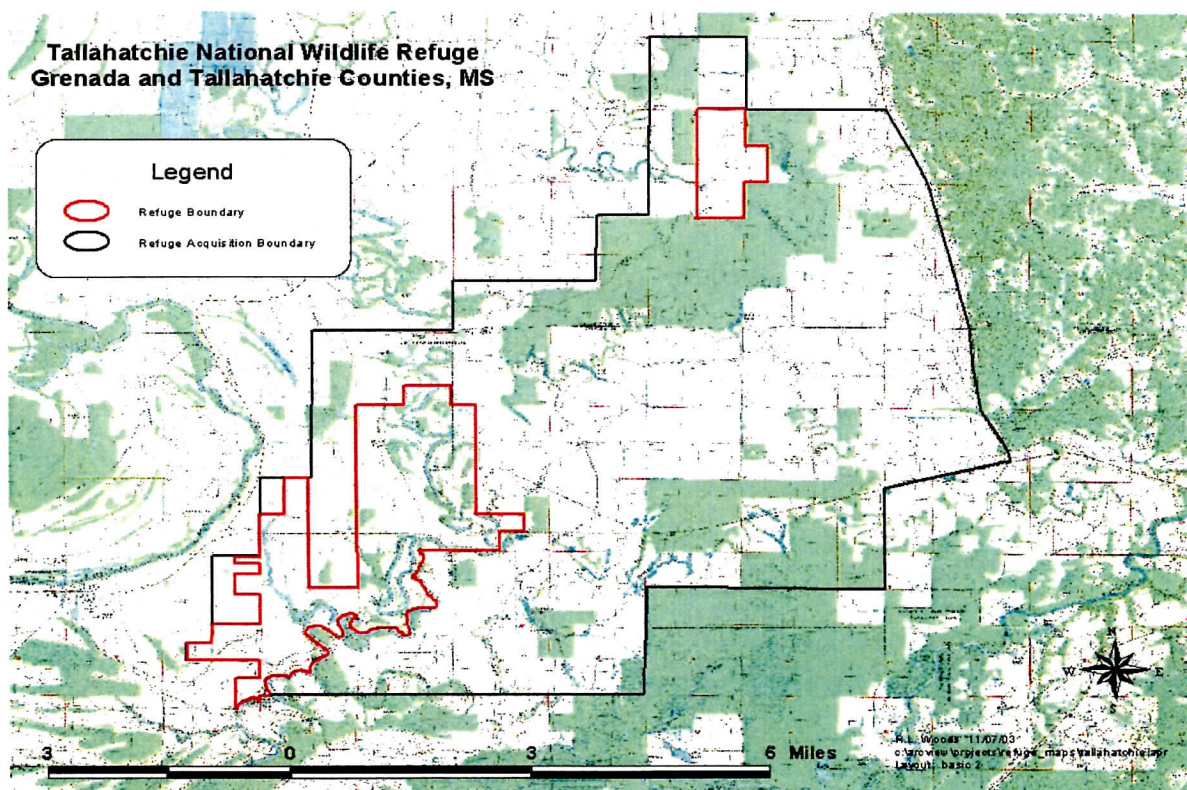


Figure 4. Tallahatchie National Wildlife Refuge



Table 3. Properties managed by Tallahatchie National Wildlife Refuge.

REFUGE PROPERTIES								
NAME	COUNTY	ACRES	ESTATE	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	YEAR ACQUIRED	LAT/LON
<b>TALLAHATCHIE NWR</b>								
Walker Tract	TALLAHATCHIE	557	Fee Title	PHILIPP	CASCILLA	T23N R2E SEC. 21, 22 & 28	1991.00	30°50'N 90°05'W
John Whitten	GRENADA, TALLAHATCHIE	509	Fee Title	PHILIPP	PHILIPP	T22N R1E SEC.13 & 24; T22N R2E SEC. 18	1992.00	33°45'N 90°08'W
John Hancock	GRENADA, TALLAHATCHIE	1,361	Fee Title	PHILIPP	PHILIPP	T22N R1E SEC. 1, 12 & 13; T22N R2E SEC. 7 & 18	1992.00	33°47'N 90°08'W
Chicago Mills/DOT	TALLAHATCHIE	1,656	Fee Title	GREENWOOD, PHILIPP	MONEY, PHILIPP	T22N R1E SEC. 14, 22-27 & 34	1997.00	33°45'N 90°09'W
<b>TALLAHATCHIE NWR</b>	<b>TOTAL ACRES (Fee Title only)</b>	<b>4,083</b>						

FmHA FEE TITLE PROPERTIES								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
GILLON	GRENADA	245	11.00	GRENADA	GRENADA	T22N R5E SEC. 21	07/14/93	33°45'N 89°46'W
GWIN	LEFLORE	343	16.00	SUMNER	GLENDORA	T22N R2W SEC. 13 & 24	02/19/92	33°45'N 90°21'W
HENSON	LEFLORE	165	19.00	MOSSY LAKE	MONTGOMERY	T17N R1W SEC. 19	07/15/92	33°19'N 90°20'W
HENSON / A.C.O.E.	LEFLORE	275	no	MOSSY LAKE	MONTGOMERY	T17N R1W SEC. 19	?	33°19'N 90°20'W
KIMBROUGH, A.M.	LEFLORE	40	18.00	MOSSY LAKE	MONTGOMERY	T17N R1W SEC. 18	04/18/92	33°19'N 90°20'W
MILLIGAN, H.	LEFLORE	2	17.00	SEVEN PINE	SIDON	T18N R1E SEC. 30	03/05/92	33°23'N 90°14'W
MILLIGAN, H.	LEFLORE	76	17.00	SEVEN PINE	SIDON	T18N R1E SEC. 31	03/05/92	33°23'N 90°14'W
ROBERTSON	LEFLORE	655	14.00	GREENWOOD	GREENWOOD	T20N R1E SEC. 24 & 25	10/02/90	33°34'N 90°08'W
SCOTT	LEFLORE	226	20.00	SUMNER	BROOKS	T22N R2W SEC. 8	09/01/94	33°47'N 90°25'W
SCOTT	LEFLORE	80	20.00	SUMNER	BROOKS	T22N R2W SEC. 3	09/01/94	33°48'N 90°23'W
SCOTT	LEFLORE	90	20.00	SUMNER	BROOKS	T22N R2W SEC. 9	09/01/94	33°47'N 90°24'W
JAMES	TALLAHATCHIE	160	10.00	PHILLIP	TIPPO	T24N R1E SEC. 36	10/11/90	33°54'N 90°08'W
PENNINGTON	TALLAHATCHIE	470	17.00	SUMNER	WEBB & VANCE	T25N R2W SEC.36		33°58'N 90°21'W
PENNINGTON	TALLAHATCHIE	360	17.00	TUTWILER	TUTWILER & VANCE	T25N R2W SEC.26		34°00'N 90°22'W
PENNINGTON	TALLAHATCHIE	40	17.00	TUTWILER	VANCE	T25N R1W SEC. 2		34°03'N 90°15'W
<b>15 FEE TITLE PROPERTIES IN 3 COUNTIES</b>		<b>3,227</b>	<b>ACRES</b>					

FmHA CONSERVATION EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
CALHOUN / DANCE	CARROLL	149	10C	COILA	PEACHAHALA CREEK	T17N R5E SEC. 31 & 32		33°17'N 89°47'W
CALHOUN / DANCE	CARROLL	57	10C	COILA	PEACHAHALA CREEK	T16N R5E SEC. 6		33°16'N 89°49'W
CALHOUN / DANCE	CARROLL	16	10C	COILA	PEACHAHALA CREEK	T17N R5E SEC. 31		33°17'N 89°48'W
STATEN	GRENADA	74	12C	PHILIPP	CASCILLA	T22N R2E SEC. 17 & 20		33°45'N 90°06'W
HARRIS, W.L.	GRENADA	18	10C	PHILIPP	CASCILLA	T22N R2E SEC. 10		33°46'N 90°04'W
MOOR, R.B.	LEFLORE	11	15C	GREENWOOD	GREENWOOD	T19N R1W SEC. 12	11/29/90	33°31'N 90°14'W
MOOR, R.B.	LEFLORE	77	15C	GREENWOOD & SCHLATER	GREENWOOD & SHELLMOUND	T19N R1W SEC. 12	11/29/90	33°31'N 90°15'W
MOOR, R.B.	LEFLORE	17	15C	SCHLATER	SHELLMOUND	T19N R1W SEC. 12	11/29/90	33°31'N 90°15'W
MOOR, R.B.	LEFLORE	58	15C	SCHLATER	GREENWOOD & SHELLMOUND	T19N R1W SEC. 13	11/29/90	33°30'N 90°15'W
TRIBBLE	LEFLORE	12		GREENWOOD	MONEY	T21N R1E SEC. 20		33°40'N 90°12'W
TRIBBLE	LEFLORE	28		GREENWOOD	MONEY	T21N R1E SEC. 20		33°40'N 90°13'W
HAWKINS	LEFLORE	33	12C	SCHLATER	BEAR CUT BAYOU	T20N R2W SEC. 34	09/20/90	33°33'N 90°23'W
KOLLE, R	LEFLORE	109	10C	SCHLATER	SHELL MOUND	T20N R2W SEC. 23	05/04/90	33°35'N 90°22'W
UPCHURCH / PRESTRIDGE	LEFLORE	250	11C	SCHLATER	BEAR CUT BAYOU	T20N R2W SEC. 22, 26 & 27	10/01/90	33°34'N 90°23'W
SAUNDERS	LEFLORE	15	13C	MOSSY LAKE & SCHLATER	COLONY TOWN	T19N R2W SEC. 20	07/09/90	33°30'N 90°25'W
SAUNDERS	LEFLORE	45	13C	MOSSY LAKE & SCHLATER	COLONY TOWN	T19N R2W SEC. 20	07/09/90	33°30'N 90°25'W
GRAHAM, T	NEWTON	38	10C	not available	DECATER	T6N R12E SEC. 3 & 4	06/08/92	32°23'N 89°03'W
DAVIS, HIRAM	TALLAHATCHIE	17	13C	PHILIPP	MONEY	T22N R1E SEC. 29	02/15/90	33°44'N 90°12'W
DENMAN	TALLAHATCHIE	8	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°59'N 90°12'W
DENMAN	TALLAHATCHIE	6	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°58'N 90°12'W
DENMAN	TALLAHATCHIE	6	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°58'N 90°12'W
HARRIS, W.L.	TALLA, GRENA.	389	10C	PHILIPP	CASCILLA	T23N R2E SEC. 35 & 36; T22N R2E SEC. 1	04/28/89	33°48'N 90°03'W
HARRIS, W.L.	TALLAHATCHIE	40	10C	PHILIPP	CASCILLA	T23N R2E SEC. 34	04/28/89	33°48'N 90°04'W
MABUS	TALLAHATCHIE	42	16C	CROWDER	FISH HOOK LAKE	T25N R1E SEC. 26 & 27		34°00'N 90°10'W
MABUS	TALLAHATCHIE	416	16C	PHILLIP	PHILIPP & TIPPO	T24N R1E SEC. 36; T23N R1E SEC. 1 & 12		33°53'N 90°08'W
MABUS	TALLAHATCHIE	7	16C	PHILLIP	PHILIPP	T23N R1E SEC. 21		33°50'N 90°12'W
MACKEY / GASTON, J.	TALLAHATCHIE	81	11C	CROWDER & TUTWILER	CROWDER	T25N R1W SEC. 12	11/02/90	34°02'N 90°14'W
MILAM	TALLAHATCHIE	3		PHILIPP	TIPPO	T24N R1E SEC. 11	10/22/98	33°57'N 90°09'W
MILAM	TALLAHATCHIE	40		PHILIPP	TIPPO	T24N R1E SEC. 12	10/22/98	33°57'N 90°09'W
SHOOK	TALLAHATCHIE	35	15C	PHILIPP	PAYNES	T24N R2E SEC. 17	07/14/95	33°57'N 90°06'W
HARRIS, W.L.	WEBS, CHOC.	515	10C	not available	EUPORA & SAPA	T19N R10E SEC. 9, 10 & 15	04/28/89	33°31'N 89°14'W
HOLLAND / BOONE	YALOBUSHA	37		GRENADA	SCOBIE	T25N R4W SEC.36		33°59'N 89°49'W
<b>32 CONSERV. EASEMENTS IN 8 COUNTIES</b>		<b>2,649</b>	<b>ACRES</b>					

FmHA FLOODPLAIN EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
STATEN	GRENADA	190	12C	PHILIPP	CASCILLA	T22N R2E SEC. 17 & 20	07/14/95	33°45'N 90°06'W
KOLLE, R	LEFLORE	191	10C	SCHLATER	SHELL MOUND	T20N R2W SEC. 23	05/04/90	33°53'N 90°22'W
DAVIS, HIRAM	TALLAHATCHIE	240	13C	PHILIPP	MONEY	T22N R1E SEC. 29		33°44'N 90°13'W
DENMAN	TALLAHATCHIE	77	14C	PHILIPP	TIPPO	T24N R1E SEC. 5		33°58'N 90°12'W
MABUS	TALLAHATCHIE	429	16C	CROWDER	FISH HOOK LAKE	T25N R1E SEC. 25 & 26		34°00'N 90°09'W
MABUS	TALLAHATCHIE	168	16C	PHILIPP	PHILIPP	T23N R1E SEC. 20 & 21		33°50'N 90°12'W
MACKEY / GASTON, J.	TALLAHATCHIE	217	11C	CROWDER & TUTWILER	CROWDER & VANCE	T25N R1W SEC. 12	11/02/90	34°03'N 90°15'W
MILAM	TALLAHATCHIE	160		PHILIPP	TIPPO	T24N R1E SEC. 11 & 12	10/22/98	33°57'N 90°09'W
SHOOK	TALLAHATCHIE	160	15C	PHILIPP	PAYNES	T24N R2E SEC. 17	07/14/95	33°56'N 90°06'W
<b>10 FLOODPLAIN EASEMENTS IN 4 COUNTIES</b>		<b>1,832</b>	<b>ACRES</b>					

Just south of the refuge lies the 9,483-acre Malmaison Wildlife Management Area, which is managed by the Mississippi Department of Wildlife Fisheries and Parks.

When these refuge lands were originally acquired by the Service, agriculture production was the primary land use. In 2005, only 15% of the refuge was in agriculture production. Twenty-five percent of the crops produced were left on the ground for wildlife through the Services cooperative farming program. Most of the refuge has been reforested through planting efforts by NMRC staff.

Tallahatchie NWR has a popular hunting program. Hunters pursue white-tailed deer, squirrel, rabbits, ducks, and feral hogs. Youth hunts for both deer and waterfowl are heavily promoted on the refuge. The landing on Tipbo Bayou provides boat access to hunters and fisherman alike.

Currently the Refuge is staffed by NMRC.



**Pennington 360 FmHA tract administered within the Tallahatchie National Wildlife Refuge work area.  
(K. Hayes/USFWS)**



# COLDWATER RIVER NATIONAL WILDLIFE REFUGE

**Coldwater River NWR**, consists of 2,374 acres of fee title lands (Figure 5). Over half of the refuge is abandoned old fields of low, poorly drained soils, which flood most winters. There are 3,452 acres of fee title FmHA properties, 165 acres of conservation easements and 271 acres of floodplain easements in the Coldwater River NWR work area (Figure 1 and Table 4). Several hundred acres have been reforested with hardwoods, but due to the wet nature of the area, willow and buttonbush thickets now dominate many acres. This area holds thousands of mallards during annual winter flooding. No cooperative farming was used on Coldwater River NWR during 2004.

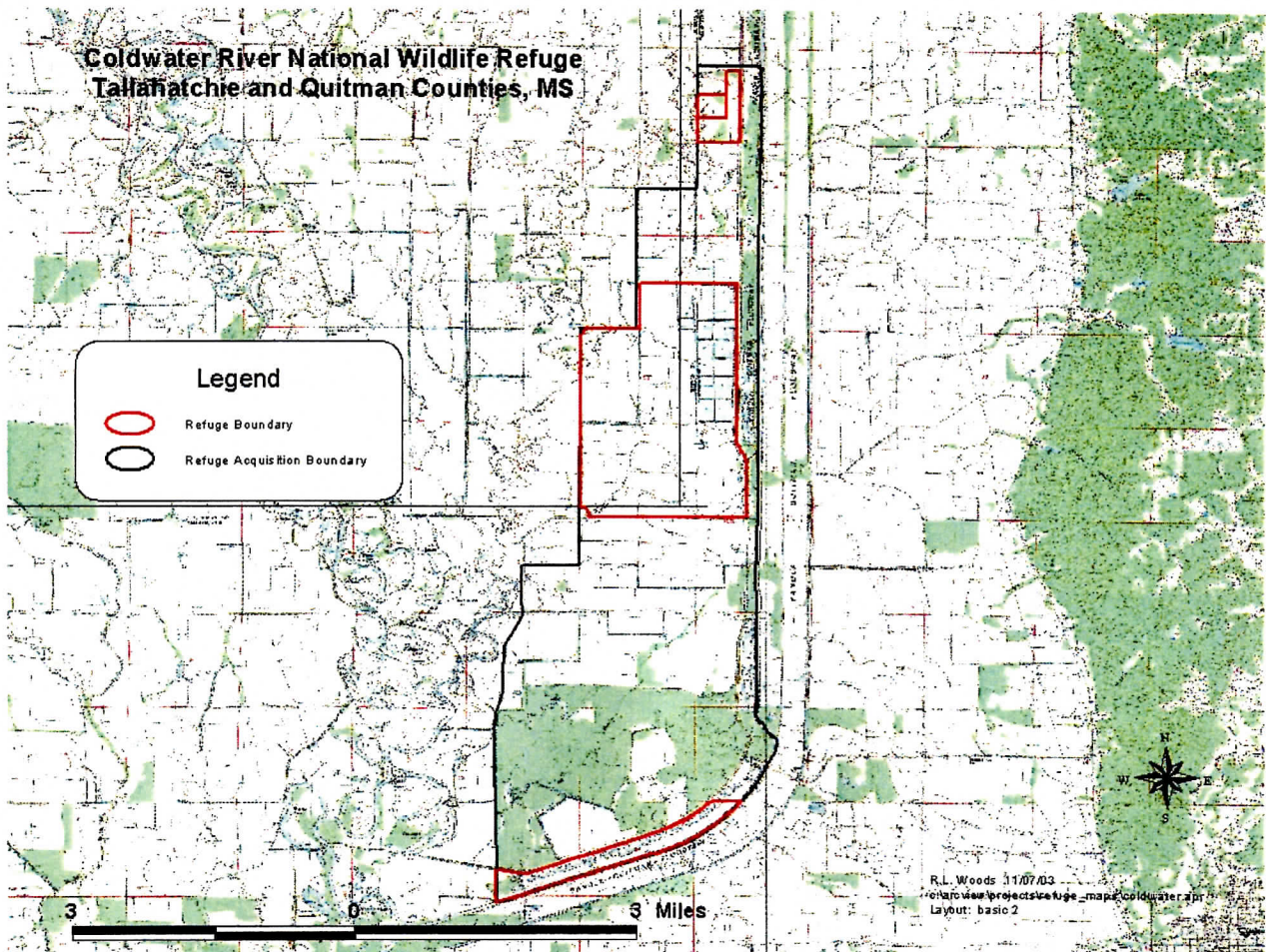
A 495-acre portion of Coldwater River NWR contains twenty-five ponds that were previously managed as a commercial catfish operation. These ponds range in size from 9 to 21 acres, and are now managed for shorebirds, ducks and marsh birds. Thirty-four species of shorebirds have been recorded here. Fifteen of these are commonly seen at the ponds from March - June and July - October. Peregrine falcon, least tern, black tern, and wood stork occasionally pass through the refuge in migration.



**White Fronted Geese using Coldwater River NWR.**  
(R.L. Rosamond /USFWS)

Bald eagles are seen regularly in winter and occasionally a golden eagle is seen. Other birds such as sedge wren, marsh wren, common yellowthroat, swamp sparrow, sora, and king rail are regularly seen or heard at Coldwater River NWR. American bittern, least bittern, Lincoln's sparrow, LeConte's sparrow, and Virginia rail are seen less commonly. Mississippi kites, dickcissels, warbling vireos, and painted buntings can be seen on the refuge during the summer. Also, during the summer, it is not uncommon to see several hundred egrets, ibis, and herons feeding in the ponds. Beaver, bobcat, coyote and mink also occur on the refuge.





**Figure 5. Coldwater River National Wildlife Refuge.**

Other waders such as snowy egrets, little blue herons, black-crowned night herons, yellow-crowned night-heron, white ibis, and flocks of wading birds, after having spent the day foraging at scattered locations in the vicinity, can be seen flying in to roost in the ponds dominated by willows. Least flycatchers nested here during the summers of 1996 and 1997. This is the only location where this species has been known to nest in Mississippi. The fish ponds and nearby low-lying fallow fields of the refuge have a history of attracting large concentrations of waterfowl in the winter. The refuge provides a juxtaposition of habitats not commonly found in the lower MAV. Coldwater River's mix of habitats and proximity to the migration corridors of the Little Tallahatchie River and the Panola-Quitman Floodway attract a diversity of migrant waterbirds all year round. Robert Barkley is the Refuge Manager for Coldwater River NWR.



Table 4. Properties managed by Coldwater River National Wildlife Refuge.

REFUGE PROPERTIES								
NAME	COUNTY	ACRES	ESTATE	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	YEAR ACQUIRED	LAT/LON
<b>COLDWATER RIVER NWR</b>								
Travelers Insurance	QUITMAN, TALLAHATCHIE	1,730	Fee Title	CROWDER	FISH HOOK LAKE	T26N R2E SEC. 30 & 31; T26N R1E SEC. 25 & 36	1991.00	34°5'N 90°08'W
Shiele Tract	TALLAHATCHIE	40	Fee Title	CROWDER	CROWDER	T26N R2E SEC. 7	1996.00	34°8'N 90°08'W
Warwick Tract	TALLAHATCHIE	306	Fee Title	CROWDER	FISH HOOK LAKE	T25N R1E SEC. 23 & 24 T25 R2E SEC. 18 & 19	2001.00	
Duck Ponds Inc.	QUITMAN, TALLAHATCHIE	298	Fee Title	CROWDER	FISH HOOK LAKE	T26N R2E SEC. 19; T26N R1E SEC. 24	1996.00	34°6'N 90°08'W
<b>COLDWATER RIVER NWR TOTAL ACRES</b>		<b>2,374</b>						

FmHA FEE TITLE PROPERTIES								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
SMITH, E.	MARSHALL	232	10.00	POTTS CAMP	MALONE	T5S R2W SEC. 28 & 29		34°37'N 89°25'W
WHALEY	MARSHALL	437	11.00	POTTS CAMP	BETHEHEM	T6S R1W SEC. 6 & 7; T6S R2W SEC. 1		34°35'N 89°21'W
CASTLEBERRY	TALLAHATCHIE	94	12.00	CROWDER	CROWDER	T26N R2E SEC. 7	11/01/93	34°07'N 90°07'W
BUTLER	QUITMAN	245		TUTWILER	LAMBERT	T27N R1W SEC. 11, 12 & 14	04/01/99	34°13'N 90°15'W
SAVAGE, E.	QUITMAN	59	10.00	TUTWILER	LAMBERT	T27N R1W SEC. 11	11/06/90	34°13'N 90°16'W
SAVAGE, P.	QUITMAN	40	13.00	CROWDER	CROWDER	T26N R1E SEC. 1	09/01/93	34°08'N 90°08'W
SAVAGE, P.	QUITMAN	20	13.00	CROWDER	CROWDER	T26N R1E SEC. 12	09/01/93	34°07'N 90°08'W
STARR, R.	QUITMAN	750	12.00	SLEDGE	CRENSHAW SOUTH	T8S R10W SEC. 1 & 2	06/02/91	34°25'N 90°13'W
STARR, R.	QUITMAN	320	12.00	SLEDGE	CRENSHAW SOUTH	T7S R10W SEC. 23	06/02/91	34°27'N 90°13'W
TRAINOR / BOYD	QUITMAN	382	11.00	TUTWILER	LAMBERT	T26N R1W SEC. 2 & 11	11/06/90	34°09'N 90°15'W
TRAINOR / BOYD	QUITMAN	219	11.00	CROWDER	CROWDER	T27N R1E SEC. 19& 20	11/06/90	34°12'N 90°14'W
TRAINOR / BOYD	QUITMAN	188	11.00	CROWDER	CROWDER	T27N R1E SEC. 20, 21 & 29	11/06/90	34°11'N 90°12'W
TRAINOR / BOYD	QUITMAN	228	11.00	TUTWILER	LAMBERT	T27N R1W SEC. 27	11/06/90	34°10'N 90°17'W
FOOSHIE / SMITH	UNION	104	10.00	NEW ALBANY	NEW ALBANY WEST	T7S R2E SEC. 32 & 33	07/22/94	34°26'N 89°06'W
FOOSHIE / SMITH	UNION	134	10.00	NEW ALBANY	ETTA, NEW ALBANY WEST	T7S R2E SEC. 31 & 32	07/22/94	34°26'N 89°07'W
<b>15 FEE TITLE PROPERTIES IN 4 COUNTIES</b>		<b>3,452</b>	<b>ACRES</b>					

FmHA CONSERVATION EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
BELL / CRAB	ALCORN	40	10C	WALNUT	CHALYBEATE	T2S R5E SEC. 29	11/25/91	34°53'N 88°47'W
TURNER / TALLEY	ALCORN	8	11C	CORINTH	KUSSUTH NORTH	T1S R6E SEC. 35	02/22/95	34°57'N 88°37'W
TRAINOR, E. L.	QUITMAN	6	16C	CROWDER	CROWDER	T27N R1W SEC. 12 & 13	01/01/98	34°13'N 90°14'W
BENSON	UNION	76		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°27'N 89°12'W
BENSON	UNION	1		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°27'N 89°12'W
BENSON	UNION	2		NEW ALBANY	ETTA	T7S R1E SEC. 20 & 21	07/01/99	34°27'N 89°12'W
BENSON	UNION	26		NEW ALBANY	ETTA	T7S R1E SEC. 17& 20	07/01/99	34°28'N 89°13'W
BENSON	UNION	6		NEW ALBANY	ETTA	T7S R1E SEC. 17	07/01/99	34°28'N 89°12'W
BENSON	UNION	2		NEW ALBANY	ETTA	T7S R1E SEC. 17	07/01/99	34°28'N 89°12'W
<b>9 CONSERV. EASEMENTS IN 3 COUNTIES</b>		<b>165</b>	<b>ACRES</b>					

FmHA FLOODPLAIN EASEMENTS								
NAME	COUNTY	ACRES	Tract #	15' QUAD	7.5' QUAD	LEGAL DESCRIPTION	DATE ACQUIRED	LAT/LON
McCLATCHY	MARSHALL	124	12C	TYRO	MARIANNA	T4S R3W SEC. 22		34°43'N 89°30'W
TRAINOR, E. L.	QUITMAN	3		TUTWILER	LAMBERT	T27N R1W SEC. 13 & 14	01/01/98	34°12'N 90°15'W
TRAINOR, E. L.	QUITMAN	16		CROWDER & TUTWILER	CROWDER & LAMBERT	T27N R1W SEC. 13	01/01/98	34°12'N 90°15'W
BENSON	UNION	43		NEW ALBANY	ETTA	T7S R1E SEC. 17	07/01/99	34°28'N 89°12'W
BENSON	UNION	36		NEW ALBANY	ETTA	T7S R1E SEC. 20	07/01/99	34°27'N 89°13'W
BENSON	UNION	36		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°28'N 89°13'W
BENSON	UNION	13		NEW ALBANY	ETTA	T7S R1E SEC. 21	07/01/99	34°27'N 89°12'W
<b>7 FLOODPLAIN EASEMENTS IN 3 COUNTIES</b>		<b>271</b>	<b>ACRES</b>					

01/03/02

## HIGHLIGHTS

- The NMRC Comprehensive Conservation Plan with the Environmental Assessment and Compatibility Determinations was completed and signed by the Regional Director.
- Refuge LE Officer Martin Holloway completed training at FLETC and ROBS at NCTC as well as field training at Noxubee NWR and SE Louisiana Complex NWR.
- Refuge LE Officer Holloway assisted with rescue efforts in the wake of Hurricane Katrina on Mississippi Sandhill Crane NWR and SE Louisiana Refuge Complex.
- Four new hunter information kiosks were erected on Tallahatchie NWR providing hunters and other users with information about permitted and prohibited activities on the refuge.
- PLB Hayes completed the Stepping Up To Leadership program.
- FMS Jones and EO Perry assisted with clean up of the aftermath of Hurricane Katrina in Louisiana.
- Regional Refuge Chief, Jon Andrew, along with Ricky Ingram and Steve Brock visited the Complex. It was Jon's first visit to the refuge.
- ARM Hayes and PLB Hayes initiated and organized SAMMS for the NMRC.



## Climatological Review – 2005

Table 5 depicts the climatological information collected at the weather station located in Greenwood, MS, located 23 miles southwest of the NMRC headquarters.

Table 5. 2005 weather information collected at the weather station in Greenwood, MS.

Month	Avg High Temp (F)	Avg Low Temp (F)	Total Precip (in)
January	58.0	39.3	3.79
February	59.5	41.5	3.52
March	64.7	43.1	2.10
April	74.9	51.9	8.71
May	81.8	58.4	3.25
June	89.2	68.0	1.33
July	90.9	71.7	3.46
August	94.8	71.8	4.48
September	89.6	66.1	4.02
October	78.0	48.5	0.03
November	69.6	42.6	3.05
December	55.2	30.5	4.18



## Monitoring and Studies

### *1a. Surveys and Censuses*

The following are significant surveys and censuses that took place during 2005 on lands administered by the NMRC.

- Wildlife Biologist Becky Rosamond conducted aerial waterfowl surveys of selected areas of the NMRC this past year. Surveys were conducted twice a month from November through the beginning of March and were conducted at low altitude (approximately 500 feet). Water conditions were mostly good to excellent from December through March. Peak numbers (approximately 22,000 birds) occurred at the end of December, with the majority of the birds occurring on Coldwater River NWR and Tallahatchie NWR (Table 1).
- WB Rosamond with STEP students Tabitha Beach and Hal Mitchell conducted a survey of the heron rookery on the Gillon Tract in early June. There are 12 active nests in the rookery. Additionally, approximately 30 black vultures were using the area as a roost. By early December, the number of black vultures had increased to over 200 with 10 or more turkey vultures also roosting at the site.



**Black vultures near rookery at the Gillon Tract.**  
(R.L. Rosamond/USFWS)

- WB Rosamond with STEP students Beach and Mitchell began a dragonfly inventory of refuges within the complex. For each species, an individual was captured, preserved, a photo-voucher taken, and location data mapped. This database will be added to a state-wide inventory, which should be published by 2007. For 2005, the inventory added 27 new county records to the state database.

- STEP students Beach and Mitchell marked locations of kudzu on Tallahatchie NWR to add to invasive species database.
- WB Rosamond began wildflower inventories on Coldwater River, Dahomey, and Tallahatchie NWR's and began compiling a plant species list.



**Copper iris is one of the many native wildflowers found on Dahomey NWR. (R.L. Rosamond/USFWS)**

- Staff from the Fisheries Office in Jackson, MS electroshocked Long Branch at Tallahatchie NWR in November. Species detected included: smallmouth buffalo, largemouth buffalo, bluegill, white crappie, gizzard shad, threadfin shad, largemouth bass, longnose gar, spotted gar, highfin carpsucker, orange-spotted sunfish, drum, and common carp.
- Dr. Don Sudbrink, Delta State University, conducted a 4<sup>th</sup> of July Butterfly Count at Dahomey NWR. He detected 25 species and hopes to repeat the count with volunteers next year.

### ***1b. Studies and Investigations***

The North Mississippi Refuges formed partnerships with state agencies, universities, and other organizations to aid in conducting studies and investigations on refuge properties. The following are some significant activities that took place in 2005.

- Dr. Ed Keiser, a herpetologist from the University of Mississippi completed a herpetological census on the Whaley Tract in Marshall County this past spring. He recorded a total of six species of salamander, 10 species of frogs, seven species of turtles, three species of lizard, and seven species of snakes. It is interesting to note that, though Dr. Keiser found a number of snakes on the property, there were significantly fewer than



he expected given the current habitat. Additionally, 19 species of mammals were reported from the site. Voucher specimens collected during this study are interred at the Mississippi Museum of Natural Science.

- Dr. Scott Franklin and Margaret Cirtain (graduate student) continued work at Dahomey NWR investigating the success of transplanting cane to reestablish canebrakes. This work is being done as part of a partnership with the University of Memphis, Strawberry Plains Audubon Center, and the NMRC. WB Rosamond girdled overstory trees in one plot as part of a study looking at the effects of being released from competition on established cane stands. (These trees were girdled in 2004 but were not initially killed.) This work is being expanded to look at the impacts of fire on cane, using a site of an accidental fire as the study site.
- Dr. Don Sudbrink, Delta State University, continued his work on insects at Dahomey and Tallahatchie NWR's. Specimens are interred at Delta State University. An initial butterfly species list has been submitted to the Grenada Office. Additionally, he detected a species of exotic horntail (type of woodwasp) at Dahomey NWR. Dr. Nathan Schiff (USDA, Forest Service) is continuing this investigation. Dr. Sudbrink also completed a study and presented a poster on "Tri-trophic Interactions in Goldenrod-Gall Insect Communities in the Mississippi Delta: Influence of Landscape." This study was conducted at Dahomey NWR and also involved several students from Delta State University. The primary goal of the study was to look at insect and avian predators of ball gall flies.
- Dr. Jeff Duguay and two student assistants from Delta State University continued a project investigating characteristics of preferred breeding habitat of marbled salamanders. Last years results were presented as a poster at the annual meeting of the Association of Southeastern Biologists and as a paper at the annual meeting of the MS Chapter of the Wildlife Society.
- WB Rosamond, Dr. Nina Baghai-Riding, Delta State University, with 17 students (conservation ecology class), conducted water quality monitoring in Christmas Lake Branch and Stillwater Bayou. The monitoring involved site characterization, water



**Students from Delta State University look for invertebrates in a kick net sample (left) and check minnow traps in Christmas Lake Bayou (right) at Dahomey NWR. (R.L. Rosamond/USFWS)**

chemistry measurements and sampling of both vertebrate and invertebrate species. This study probably will be continued as part of the curriculum in future years. Additionally, the class (with Dr. Jeff Duguay) conducted a white-tailed deer browse survey.

- Dr. Susie Adams, USDA, conducted sampling on the Whaley tract in Marshall County in search of an unusual species of crayfish. (They had collected one in a nearby creek earlier in the year.) Nothing out of the ordinary was collected. However, they did report we have two species of crayfish on that site.



## Habitat Restoration

### ***2a. Wetland restoration: On-refuge***

The following wetland restoration projects were completed by NMRC staff during 2005:

- Rehabilitated levees on the Walker Tract, cutting down and widening existing levees.
- Created a crossing on Long Branch at Tallahatchie NWR. Excavated fish beds, placed gravel and stocked with catfish and bream to improve the public fishery.
- Rehabilitated previous projects on FSA tracts in Sunflower County.

In 2004, NMRC contracted with Ducks Unlimited to cut down and rework levees at Coldwater River NWR, as well as to install new water control structures. They completed initial levee work on the levees surrounding 14 of 24 ponds in September of 2004. In 2005, they began work on the remaining 10 ponds. Work on this project will continue in 2006.



**Levee work at Coldwater River NWR.  
(R.L. Rosamond/USFWS)**

### ***2b. Upland Restoration: on-refuge***

Nothing to report.

### ***2c. Wetland Restoration: off-refuge***

See Section 5c., Private Lands Activities.

### ***2d. Upland Restoration: off-refuge***

See Section 5c., Private Lands Activities.



# 3

## Habitat Management



### ***3a. and b. - Manage Water Levels and Moist Soil Units***

In preparation for levee work on the catfish ponds at Coldwater River (see map below), WB Rosamond began pulling boards and removing beaver debris throughout the refuge in March. To drain ponds R and X, EO Lee used an excavator to cut through the levees. Ponds E, G, J, K, M, and N that were reworked last year also were drained beginning in March to promote the growth of millet and other desirable moist-soil plants. Unfortunately, pond bottoms were not smoothed after last fall's levee work, resulting in uneven drying. The result was mounds of dirt that supported lush growth of millet and lower areas which had more undesirable plants, such as coffeeweed. Pond M, which was essentially overrun by willows, was bulldozed by EO Perry and all willows were knocked down. In 2006, the downed willows will need to be removed so the pond can be effectively managed.

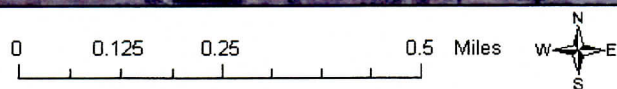
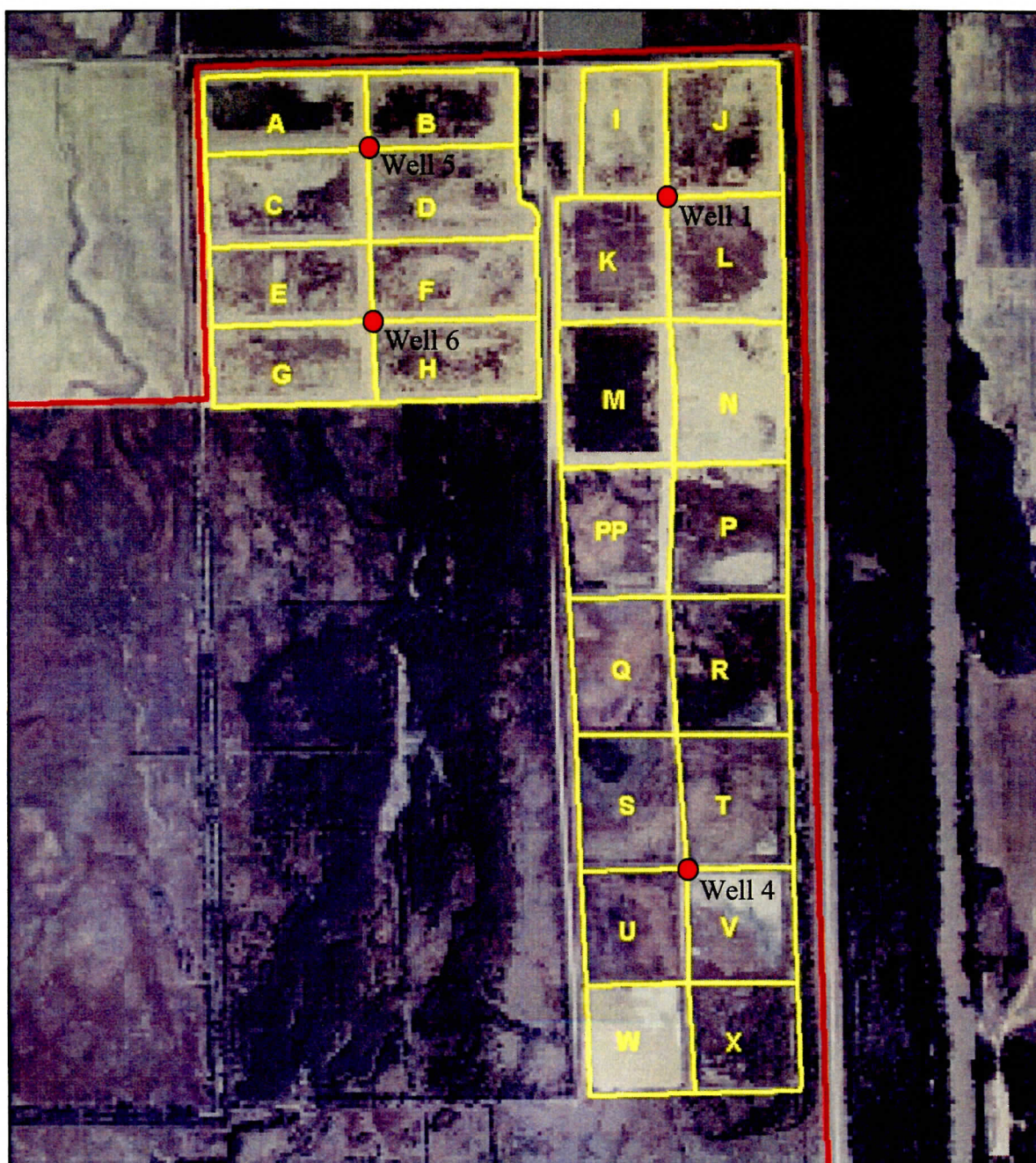
Other units at Coldwater River (Units B, D, F, and L) dried on their own through the summer. The vegetation in these units tended to support more coffeeweed and less moist soil plants, but still tended to have an understory layer of sprangletop or sedge. Units A, C, H, and I retained some water throughout the year and had sporadic waterbird and shorebird use.

In an effort to curtail willow colonization, STEP students Beach and Mitchell spent many days spraying willows in units A, B, C, D, E, G, I, J, K, L, and N at Coldwater River. In 2006, many of these units will be retreated by using a breaking plow, coupled with drying to try to complete removal of willows in these units.

A sustained drought through late summer and fall resulted in extremely dry conditions throughout the Delta. Structures were re-boarded in October, but no significant rainfall occurred. Throughout the summer, WB Rosamond coordinated with Tallahatchie Valley Electric and a local electrician and by mid-November, wells had been repaired and power had been restored to wells 1, 5, and 6. Well 1 was turned on beginning November 10 to flood ponds I-L. Wells 5 and 6 began pumping November 17, filling ponds A-H. (Due to the holidays and staffing shortages, pumps were not run continuously until December 6<sup>th</sup>.) By December 6, levee work on the southern ponds had been completed for the year and well 4 was turned on to flood ponds S-V. By December 15<sup>th</sup>, ponds A-L were at full pool (though intentionally kept shallow) and ponds S-V were at about ½ pool. Waterfowl response was almost immediate, with several thousand birds moving on to the refuge within 48 hours of the first well being turned on. Visits to the refuge to check wells resulted in observations of thousands of ducks using the ponds as well as over a thousand white-fronted geese, and well over ten thousand snow geese (packed onto ponds A and C). Because of thick vegetation and shallow water, many of the ducks were not visible until flushed, but were an impressive sight.



# **Coldwater River National Wildlife Refuge Catfish Ponds**



North Mississippi Refuges Complex  
c:\arcview\projects\refuge\_maps\cwr\_ponds\_label.mxd  
R.L. Rosamond 02/06/2006

**Aerial photo of catfish ponds and designations in addition to well locations for the levee rehabilitation project on Coldwater NWR.**



### **3c. *Graze/mow/hay***

On Tallahatchie, staff mowed unit 26 to control cattails. In late July and early August, staff mowed portions of units 25, 26, 27, 28, 30 and 31 to provide landing areas for waterfowl (strip mowing) and to remove heavy growths of coffeeweed prior to seed set. Additionally, roadsides, trails, and levees throughout the refuge were mowed in August in preparation for hunting season.

On Dahomey, roadsides and trails were mowed in August by EO Roby in preparation for the hunting season. Also, staff mowed fallow field 39 and the southeastern half of field 41 to set back succession.

Property boundaries on those FmHA Tracts open to small game hunting were mowed by EO Perry in August in preparation for the hunting season.

No haying operations were conducted on the Complex in 2005.

### **3d. *Farming***

No cooperative farming occurred at Coldwater River NWR during 2005. Seven percent of the acreage (611 acres) at Dahomey and 15% (648 acres) of the acreage at Tallahatchie was farmed this year (Table 6).

Due to staff and budget shortfalls an 80-acre moist soil unit at Dahomey was cooperatively farmed in rice this year and re-flooded in the fall for wintering waterfowl. The amount of cooperatively farmed acreage at Tallahatchie was reduced from 721 acres in 2004 to 648 acres in 2005. In the future we may seek other ways to reduce the farming acreage on the refuges. For now, farming will continue to be used to maintain desired succession by utilizing rotational crop planting among existing moist soil areas and to provide "hot grains" for migratory waterfowl.

NMRC requires co-op farmers to leave 25% of all crops planted or, in some instances, they perform services that enhance wildlife values. At Dahomey the co-op farmers have been re-establishing levees in rice fields after harvest and then flooding the fields prior to migratory waterfowl arriving. The result is that thousands of waterfowl can be seen using these fields.

**Table 6. Acreage Farmed and Crops Produced by Cooperative Farmers in 2005.**

Coop farmer	Refuge	Acres/crop	Refuge Share
Clemons	Dahomey	292/soybeans	Winter pumping soybean fields
Herbison	Dahomey	239/soybeans	Maintenance of 80 acre moist soil unit levees
Herbison	Dahomey	80/rices	Winter pumping rice fields
Strider	Tallahatchie	76/corn	100 % left in field
Strider	Tallahatchie	20/millet	100% left in field
Strider	Tallahatchie	552/soybeans	Share of corn and millet left in field

### **3e. Forest Cutting**

Nothing to report

### **3f. Prescribed Burning**

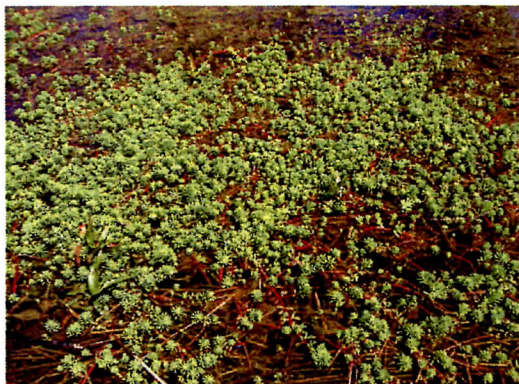
NMRC did not conduct any prescribed burning in 2005. WB Rosamond and EO Ross assisted Noxubee NWR with burning for two days. WB Rosamond and RM Hayes attended additional training to move towards meeting qualifications of burn boss. At the present time, NMRC has six full-time employees and two temporary employees qualified to work a prescribed fire. No one on the NMRC staff is qualified as a burn boss.

Although no prescribed burning occurred on the NMRC, three areas experienced wildfires during 2005. Seventy-five acres burned on Dahomey NWR, one and one-half on the Robertson FmHA tract, and 10 on the Mabus FmHA tract. It is not known if the fires were accidental or arson.

### **3g. Control pest plants**

WB Rosamond and STEP students Beach and Mitchell worked to control invasive plant species on Coldwater River and Tallahatchie NWR's.

In 2003, parrot feather, an invasive exotic, was noted for the first time on the Walker Tract of Tallahatchie. In shallow water situations, parrot feather spreads rapidly and can completely take over a small water body in one season. This plant spreads by adventitious roots at the nodes as well as by fragments. For that reason, using any sort of mechanical method to control the plant is not advisable. WB Rosamond applied granular Aquathol Super K this spring to the heavier infestations of parrot feather. Although it appeared that the treated areas of parrot feather were reduced by the herbicide, not enough of the population was treated to consider the species controlled. Additionally, levee work at the Walker Tract involved cleaning the drainage ditches, including some of the main areas of infestation. Silt (and parrot feather) removed from the



**Parrot feather, an exotic invasive species, on the Walker Tract, Tallahatchie NWR.  
(R.L. Rosamond/USFWS)**

ditches was put on the top of the levee and allowed to dry. A follow-up evaluation needs to be conducted in spring '06 to determine treatment success. NMRC plans to retreat parrot feather

colonies in '06.

Black willow is common throughout the Mississippi Delta, often colonizing drainage ditches and pond banks. Lack of disturbance in the moist soil units at Coldwater River NWR has led to the colonization of several of these ponds by willows. STEP students Beach and Mitchell worked intensively using the herbicide, Habitat, to treat willows in portions of 11 ponds at CWR and 1 unit on Tallahatchie NWR. While Habitat is very effective at killing willows, the density of stands in some of the units made full control impossible. The addition of a breaking plow to our arsenal of equipment gives us some hope for control next year.

Cattail is becoming progressively more common on several of the moist soil units at Tallahatchie, even with semi-regular farming of those units. This year we did a side-by-side comparison of the use of Habitat and mowing to control cattail. In June, STEP students Beach and Mitchell spot sprayed cattails in unit 28 and mowed (within 1 – 2" of the ground) cattails in unit 26. The idea was to overtop the mowed cattails with water, but mechanical problems prevented this and the unit was simply left dry. There was no re-growth of cattails in unit 26. The spraying killed some of the plants in unit 28 but was much more time-consuming and was not 100% effective. We plan to revisit the sites in 2006 to evaluate control after 1 year.

Some species of plants can be controlled by altering the hydrology of a site. American lotus has become established on the Walker Tract. The staff of NMRC drained the large impoundment on the Walker Tract in an attempt to dry out the lotus and eradicate it. Unfortunately, beaver activity along Brushy Creek and heavy rainfall in the early summer limited the success of this method. However, a drought this fall enabled us to keep the unit dry until cold weather. The unit will not be intentionally re-flooded until spring 2006 in the hopes that freezing temperatures will kill a large percentage of the population. Last year's attempt to kill lotus in Pond V at Coldwater River appears to have been successful.

Other species that bear watching over the next few years include: knotgrass – colonizing some of the catfish ponds on Coldwater, water primrose – present in shallow water habitat; appears to be more dense and in more areas than in previous years; coffeeweed – always an issue in moist soil management; early drawdowns on the catfish ponds appeared to reduce the amount of germination; cocklebur – mostly an issue on the Tallahatchie moist soil units, although several ponds that dried late in the season on Coldwater River had fairly heavy stands; an early drawdown may limit germination in this species as well; kudzu – currently found primarily along the banks of Tipppo Bayou; appears that the annual flooding of the bayou may be keeping it in check; and cogongrass – although this species has not been found on refuge property, it appears to be spreading north from the coast.





## Fish and Wildlife Management

### ***4a. Bird banding***

During the 2005 nesting season, 3 adult hen wood ducks and 1 adult hen hooded merganser were banded in nest boxes. These low numbers primarily reflect the lack of box monitoring that occurred this year and is not a reflection of box use or recruitment. Additionally, an effort was made to trap wood ducks using swim-in traps and floating traps primarily during July as part of the pre-season banding program. This effort focused on Coldwater River NWR and the Walker Tract of Tallahatchie NWR and was met with improved success over last year. A total of three adult female, 15 juvenile female, and 12 juvenile male wood ducks were banded at the two sites.

Unlike previous years, almost half the birds captured were local (unflighted), which means they were reared on-site. The large percentage of immature birds captured (90%) supports the theory that traps were attracting primarily hens with broods, or at least, broods that had not yet dispersed. Although trapping success continues to improve each year, it still does not approach the banding quota of 100 birds.



**Wood ducks in trap at the Walker Tract.  
(R.L. Rosamond/USFWS)**



**STEP students Beach and Mitchell  
holding wood ducks captured at  
Coldwater River NWR.  
(R.L. Rosamond/USFWS)**

### ***4b. Disease monitoring and treatment***

Nothing to report

### ***4c. Reintroductions***

Nothing to report

#### **4d. Provide nest structures**

Due to a lack of applicants, no interns were hired this spring to maintain and monitor wood duck boxes. WB Rosamond prepped all boxes in February and March, and opportunistically checked boxes throughout the breeding season. However, due to other demands, many boxes were not revisited until the fall and data on nesting success are sketchy. STEP student Beach and WB Rosamond visited all boxes in November and December. STEP Beach trimmed around boxes as needed and boxes were prepped for the 2006 nesting season.

Ninety-seven wood duck nest boxes are present on nine properties within the NMRC. Seven of these boxes (on five properties) have well-developed honeybee hives and will no longer be monitored. Table 7 summarizes the results of the 2005 nesting season:

**Table 7. Wood duck nest box success by location.**

Location	Number of Boxes	Number Used by Wood Ducks	Number of Eggs Laid	Number of Eggs Hatched	Hatching Success
Coldwater River NWR	5	4	43	13	30 %
Dahomey NWR	35				
Gillon	4	2	25	0	0 %
Harris	2				
Pennington	2	2	34	12	35 %
Robertson	4	3	41	28	68 %
Tallahatchie NWR	23	16	280	156	56 %
Walker	7	7	123	12	10 %
Wilkins	6	6	95	30	32 %

In addition to successful use by wood ducks, nest boxes were successfully used by hooded mergansers, screech owls, wrens, and woodpeckers.

Future efforts will focus on reducing the amount of egg predation, increasing the number of boxes (as staffing permits), relocating existing boxes to reduce dump nesting, and continuing to monitor boxes frequently.

**4e. Predator and exotic control** Nutria are abundant on many NMRC properties. They cause damage to levees and interfere with wildlife management activities. Nutria will readily enter swim-in traps and floating traps set for ducks to feed on the bait (wheat). Once they are in the traps, ducks will not enter. Nutria are most frequently seen at the Walker Tract of Tallahatchie and Coldwater River NWR. In the fall of 2005, RM Galvan reported a noticeable increase in nutria along the pipeline slough at Dahomey NWR. WB Rosamond used conibear traps and a



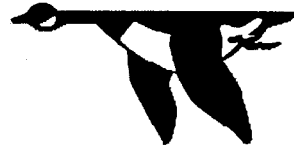
.22 rifle to dispatch 17 nutria on the Walker Tract and seven on Coldwater River. The control efforts on Walker occurred primarily in the spring and early summer. Fewer nutria were observed during the summer trapping season than in previous years.

Beaver are common on NMRC properties and interfere with wildlife management activities by plugging culverts, ditches, and water control structures. During the spring and summer of 2005, NMRC staff cleared beaver debris from numerous water control structures and cleared beaver dams from streams and ditches to release ponded water. WB Rosamond developed a cooperative agreement with USDA Wildlife Services to conduct beaver control on all NMRC properties, focusing primarily on Dahomey and Coldwater River NWRs and the Walker Tract of Tallahatchie NWR.

Feral hog populations are apparently growing on many properties managed by NMRC. Sightings by staff and hunters are increasing annually. Hog activities cause damage to wildlife habitat, levees, roads, and crops of adjacent landowners. Also, feral hogs have the potential of spreading disease in humans. The shooting of feral hogs by permitted hunters during open hunting seasons is encouraged.



**During duck trapping at Walker, a bobcat was lured into the swim-in trap. When staff arrived at the site, the trap contained the bobcat, 2 nutria, and 2 wood ducks. There was no indication the bobcat had killed any ducks. After removing the ducks, WB Rosamond removed the top from the trap and the bobcat went on its way. (H. Mitchell/USFWS)**



## Coordination Activities

### ***5a. Interagency Coordination***

- NMRC hosted and participated with NRCS, the MS State Forestry Commission, the State Extension Service, the Grenada Public Schools, and other volunteers in labeling and wrapping trees for the annual Arbor Day “Tree Giveaway Program” in Grenada County.
- WB Rosamond continued working with Dr. Ed Keiser and graduate students, from the University of Mississippi conducting herp censuses at the Whaley FmHA property in Marshall County.
- WB Rosamond continued working with the University of Memphis and the Mississippi Audubon Society, Strawberry Plains Audubon Center, to facilitate plantings and research of canebrakes on Dahomey NWR.
- NMRC is working with the U.S. Forest Service on pondberry research. Pondberry is found on one of the Conservation Easements managed by the NMRC.
- WB Rosamond has been participating in meetings with the Mississippi Black Bear Restoration Task Force. The task force includes representatives from the Service, USDA, MS Wildlife, Fisheries, and Parks and the Restore the Black Bear Conservation Committee.

### ***5b. Tribal Coordination***

Nothing to report.

### ***5c. Private Land Activities***

- Requests for private land projects again were popular as more people heard about the program. The program is making a significant effort to help implement projects within the Forest Breeding Bird Priority Zones as identified by the Lower Mississippi Valley Joint Venture’s Decision Support Model.
- Historically, most of the projects have been located in the Delta. More interest is being generated in the hills east of the delta with 3 of 7 projects located in northeastern Mississippi (Table 8).

**Table 8. Summary of fiscal year 2005 accomplishments for the Private Lands Program.**

<b>Project Name</b>	<b>Program</b>	<b>Wetland (ac)</b>	<b>Upland (ac)</b>	<b>Total Acres</b>
Campbell	PFW		77	77
Holden	PFW		5	5
Jarrett	PFW	29		29
Watson	PFW	40		40
Wilemon	PFW	54		54
Oakley	PFW	10		10
Langston	TA <sup>a</sup>		160	160
<b>TOTAL</b>		<b>133</b>	<b>242</b>	<b>375</b>

<sup>a</sup>TA – Technical Assistance

#### ***5d. Oil and Gas Activities***

Nothing to report.

#### ***5c. Cooperative/Friends Organization***

The Friends of Dahomey had another productive year. In January they had their first meeting of the members and elected an “official” board of directors. Monthly board meetings have been faithfully attended by new board members throughout 2005. The group has grown to 35 members this year and has accomplished some of their short term goals.

#### Friend of Dahomey Highlights for 2005

- Published their first newsletter “The Dahomey Dateline”
- Sponsored a volunteer work day with Spring Break college students from the University of Missouri and Delta State University. They worked on a landscaping project and cleanup and painting of the interior of the Dahomey headquarters office.
- Set up and monitored bluebird boxes at Dahomey.
- Set up an information booth at the 4-H wildlife jamboree.
- Had t-shirts printed to sell as a fundraiser.
- Set up an information booth at the Crosstie Art and Jazz Festival in Cleveland, MS.
- Established a Website [www.friendsofdahomey.org](http://www.friendsofdahomey.org)
- Designed and worked on constructing a new one mile nature trail.
- Designed and started a butterfly/hummingbird garden at the Dahomey headquarters
- Set up an information booth at the Octoberfest festival in Cleveland, MS.
- Sponsored the 2<sup>nd</sup> annual Christmas Bird Count at the Dahomey NWR and provided a chili supper for all of the participants.
- Tom Wear, the president of the friends group, assisted the refuge with mowing, maintenance and leading group tours throughout the year.



# 6

## Resource Protection



### ***6a. Law Enforcement***

The law enforcement program at the NMRC increased in size in 2005 by the addition of full-time officer, Martin Holloway. This addition increased the law enforcement presence to three officers from the previous staffing of two dual function officers for the patrol of three refuges and 128 FmHA properties in 22 counties throughout northern Mississippi.

The following are station highlights for 2005:

- Station RO's and RO's from Theodore Roosevelt Complex and Noxubee NWR conducted firearms qualifications at NMRC's small arms range.
- The Grenada County Sheriff's Office and the City of Winona Police Department also used NMRC's small arms range for their quarterly weapons qualifications.
- The Mississippi Department of Wildlife Fisheries and Parks division of Law Enforcement personnel used NMRC's conference room and small arms range to conduct four hunter safety classes.
- Officer Holloway completed 18 weeks of law enforcement training at the Federal Law Enforcement Training Center in Brunswick, GA as well as two weeks of Refuge Officer Basic School at NCTC in Shepherdstown, WV. Officer Holloway further completed ten weeks of law enforcement field training.
- PL Gard and RM Galvan completed LE in-service training at the Lively Training Center at Quincy, Florida.
- Officer Holloway completed a four day detail at Noxubee NWR during the last week of their open gun hunt.
- Officer Holloway completed a total of twenty-four days on the detail associated with Hurricane Katrina at both Mississippi Sandhill Crane NWR and Southeast Louisiana Refuge Complex.

**Table 9. Law enforcement violations reported by NMRC during 2005.**

<b>Code</b>	<b>Violation Description</b>	<b>Number of Violations</b>
26.21 (a)	Trespass on a NWR	1
27.21	Taking/Attempt to take an animal from a NWR without authorization	1
27.31 (a)(f)(l)	Traffic/Vehicle law violations	10
27.32 (ii)	Boating law violations	1
27.51 (a)	Damaging/Injuring a plant or tree	2
27.61	Defacement of property	1
27.93	Abandoning property	1
27.94 (a)	Disposing/Dumping of litter	3
28.31	Refuge specific regulations	3
32.2 (d)	Hunting in violation of state law	6
32.2 (e)	Hunting in violation of special access requirements	24
32.2 (f)	Failure to comply with special hunting regulations	10

***6b. Wildfire Preparedness***

See Section 3f.

***6c. Manage Permits and Economic Uses***

Nothing to report.

***6d. Contaminant Investigations and Cleanup***

Nothing to report.

***6e. Manage Water Rights***

Nothing to report.

***6f. Manage Cultural Resources***

Nothing to report.

***6g. Federal Facility Compliance Act***

Nothing to report

***6h. Land Acquisition***

Nothing to report.

***6i. Wilderness and Natural Areas***

Nothing to report.

***6j. Threats and Conflicts***

Nothing to report.



## Public Education and Recreation

### 8a. *Provide Visitor Services*

- The majority of the public use on each of the refuges within the complex continues to be hunting. Harvest data for the 2004-2005 hunting season is presented in Table 10 and a summary of hunter usage is presented in Table 11.

**Table 10. Harvest data for the 2004-2005 hunting season on the North Mississippi Refuges Complex.**

<b>Species</b>	<b>Dahomey</b>	<b>Coldwater</b>	<b>Tallahatchie</b>	<b>Total</b>	<b>Crippled</b>
Deer (Buck)	24		7	31	1
Deer (Doe)	12		4	16	3
Turkey	1			1	
Squirrel	1186		3	1189	107
Rabbit	24		157	181	5
Raccoon	105			105	6
Woodcock					
Wild Hog	26			26	10
Ducks	48	69	115	232	
Geese			2	2	1
Other			2	2	

**Table 11. Hunter use during the 2004-2005 hunting season on the North Mississippi Refuges Complex.**

<b>Species Pursued</b>	<b>Number of Hunter Visits</b>
<b>Deer</b>	957
<b>Squirrel</b>	377
<b>Waterfowl</b>	315
<b>Wild Hog</b>	164
<b>Rabbit</b>	136
<b>Raccoon</b>	89
<b>Turkey</b>	44
<b>Unknown</b>	9
<b>Frog</b>	3
<b>Bird Watching</b>	3



- New kiosks were installed on Tallahatchie and Coldwater River NWRs. The kiosks replaced the dilapidated wooden kiosks and are a great improvement! They provide a place for visitors to pick up hunter information cards, maps, and general information on each refuge.



**Old kiosk at Tallahatchie NWR (left) replaced with new, steel kiosk (right). Steel kiosks were placed at both Tallahatchie and Coldwater NWR. (C. Hayes/USFWS)**

- Each year the NMRC Hunting and Fishing Regulations are updated and this year was no exception. Maps were updated with more detail and guidance on tripod stand use was added.
- The 2005-2006 refuge youth hunts were conducted the same day as the state's youth hunts. Youth hunts were held on Dahomey and Tallahatchie NWRs for deer (November 12-18), squirrel (September 24-30), and turkey (March 8-14, Dahomey only). Youth waterfowl hunts were held on the same day as the state's hunt.

#### **8b. Outreach**

- WB Rosamond and ARM Hayes participated as judges for the Grenada Middle School Science Fair.
- ARM Hayes presented programs to the Grenada Kiwanis Club and the Grenada Exchange Club.
- OA Willis represented the Service at the Alcorn State University Career Fair in October.

- PLB Hayes presented a program on the “North Mississippi Refuges Complex” to the Batesville Rotary Club. Approximately 40 people attended.
- PLB Hayes presented a program on “Invasive Species of Mississippi” to the Grenada Rotary Club. Approximately 30 people attended.
- ARM Hayes and PLB Hayes presented a program to the Holcomb Lions Club.
- RM Galvan in partnership with Friends of Dahomey staffed a booth at Octoberfest in Cleveland, MS. Hundreds of people attended the popular fall event.
- RM Galvan staffed the Service booth at the Bolivar County 4-H Wildlife Jamboree in Cleveland, MS. Approximately 100 people attended the event.
- RM Galvan in partnership with Bolivar County 4-H organized a fishing derby for 75 youth and their parents. Catfish were released by the Service’s Pvt. John Allen Fish Hatchery.
- In June, the NMRC staff assisted the Pvt. John Allen Fish Hatchery with their annual fishing rodeo, which attracted over 250 kids and their families.
- WB Rosamond presented a program on migratory birds to 140 students at the Humphreys County Conservation Carnival and to approximately 200 students at the Tallahatchie County Conservation Carnival.
- In celebration of International Migratory Bird Day, ARM Hayes and WB Rosamond conducted education programs at the Strawberry Plains Audubon Center IMBD event. Two thousand students in grades 3-6 learned about migration and how to identify migratory birds in their own backyard.
- WB Rosamond presented a program to a class of 40 students at Delta State University entitled “Careers with the Fish and Wildlife Service.”
- WB Rosamond assisted with the Regional Envirothon Competition. Teams of high school students from across the state compete in natural resource categories including forestry, wildlife, and aquatics.
- NMRC staff manned the NMRC booth at the annual Strawberry Plains Audubon Center Hummingbird Festival in Holly Springs, MS. Over 3,000 people attended the event. Highlights included guest speakers Pete Dunn from the Cape May Bird Observatory and Dr. Jerome Jackson, who discussed the re-discovery of the ivory-billed woodpecker. People of all ages enjoyed stopping by the NMRC booth to learn about local wildlife and kids enjoyed craft activities geared towards learning about migratory birds.





**Both kids and adults enjoyed the crafts and display by the NMRC at the Hummingbird Festival sponsored by Mississippi Audubon. (K. Hayes/USFWS)**

- WB Rosamond presented a frog program at the Hummingbird Festival with 40 people in attendance.
- WB Rosamond taught an extensive nine week lab course to 17 students from Delta State University. Students spent the majority of their lab hours on Dahomey NWR conducting stream monitoring activities along with vertebrate and invertebrate identification.
- WB Rosamond assisted Winona High School art teachers and provided reference material for students to use to design and create artwork for the Federal Junior Duck Stamp competition.
- In partnership with the Mississippi Audubon Society, PLB Hayes, WB Rosamond, and ARM Hayes conducted an all-day course on invasive species and threatened and endangered species as part of the 10-week intensive Mississippi Master Naturalist program. The Service is a national supporter of the program and this was the first one conducted in Mississippi. The morning was spent in the classroom and the remainder of the day outside on the refuge identifying native and non-native species along with bird watching.



**Mississippi Master Naturalist Program: In the classroom (left) and in the field with WB Rosamond (right). (K. Hayes/USFWS)**



## Planning and Administration

### 9a. *Comprehensive Management Planning*

- In September, the North Mississippi Refuges' Complex Comprehensive Conservation Plan with Environmental Assessment and Compatibility Determinations was approved by the Regional Director.
- The 2005 Annual Habitat Management Plan (AHWP) was completed to include a Habitat Management Plan for the NMRC.
- WB Rosamond and PLB Hayes reviewed the Draft Biological Monitoring Techniques Guidelines.

### 9b. *General Administration*

Table 12 summarizes NMRC funding for 2005:

**Table 12. Summary of the FY 2005 funding allocations for the North Mississippi Refuges Complex.**

<b>Program</b>	<b>Accounting Code</b>	<b>Allocated (\$)</b>
Refuge Operation	1261	719,000
MMS	1262	914,000
Private Lands	1121	147,000
<b>TOTAL</b>		<b>1,780,800</b>

Additional administrative highlights for 2004:

- RO performed a Desk Acquisition and Property Management Review Audit of NMRC. Results of the audit have not been provided.
- Appropriate/required NMRC staff completed the IT Security, Performance Plans, Aviation Safety/refresher, ATV Safety, SAMMS, Discrimination and Whistleblowing in the Workplace courses. Additionally, OAA Willis completed the Temporary Travel Course in Little Rock, AR, and ARM Hayes completed the Budget Course at the National Conservation Training Center.
- During 2005, NMRC's conference room was used by the MS Department of Wildlife, Fisheries, and Parks; the MS Department of Agriculture, the City of Grenada Chamber of Commerce, the U.S. General Services Administration, the Northwest Mississippi Civil Defense Program, Region 4 heavy equipment safety trainers, Service heavy equipment operators and Special Agents from AR, LA, and MS.





## Additional Highlights

### ***10a. Meetings and Training***

The staff at NMRC was involved with a number of different meetings and training events throughout the year:

- WB Rosamond participated in the Atlantic Flyway wingbee held at Patuxent Research Refuge, Laurel, MD.
- ARM Hayes traveled to Memphis, TN in September to assist with the Federal Duck Stamp Competition, which was held for the first time outside Washington D.C. ARM Hayes assisted with the computerized scorekeeping and tracking of artwork.



**ARM Hayes poses with the final 13 entries of the Duck Stamp Contest in Memphis, TN (left) and the announcement of the winner of the 2005 Federal Duck Stamp (right). (Photo/USFWS)**

- WB Rosamond attended the North American Amphibian Monitoring Program State Coordinators meeting in Indianapolis, IN.
- PL Gard and ARM Hayes attended the statewide Hunt Plan Proposal meeting with the MDWFP. Representatives from each of the NWRs in MS attended along with state personnel.
- WB Rosamond attended the BEaR (Bear Education and Restoration) Group of Mississippi meetings and served on the Graphics Committee, which designed a web site and logo for the group.

- ARM Hayes and WB Rosamond attended a “region 4 exclusive” Bird ID and Forest Resource workshop in Vicksburg, MS.
- WB Rosamond attended a dragonfly meeting in Yazoo City, MS. The group is focused on creating dragonfly records for counties in Mississippi.
- RM Galvan and ARM Hayes attended the Project Leaders Town Meeting and Lower Mississippi Valley Ecosystem Team meeting in Stuttgart, AR.
- PL Gard attended the Project Leaders Town Meeting in Anniston, AL.
- ARM Hayes and WB Rosamond attended the Arkansas Fire Academy held at Arkansas Tech University.
- RM Barkley organized an ATV safety training for the NMRC staff.
- Chief of Refuges, Jon Andrew, and Area Supervisor, Ricky Ingram toured the refuge complex in March. This was the first visit for Jon Andrew to the NMRC.



**Refuge Regional Chief, Jon Andrew (center), along with Ricky Ingram and Steve Brock tour the Tippoo Bayou boat launch. Pictured with Andrew are PL Gard, RM Barkley and WB Rosamond. (K. Hayes/USFWS)**

- A black-necked stilt nest was found on Coldwater NWR. It is a rare occurrence and, unfortunately, the nest was not successful.
- WB Rosamond completed maps for all the Real Property Inventory for NMRC to use with activity reports and data entry for SAMMS.
- WB Rosamond and PLB Hayes provided comments on the proposed “National Wildlife Refuge System Strategic Plan for Biological and Adaptive Management.”



- PLB Hayes provided comments on the Draft Strategic Plan for Coastal and Partners for Fish and Wildlife Program.
- PLB Hayes completed the Service's Stepping Up To Leadership course.
- NMRC hosted the Southeast Region Heavy Equipment Operator Instructors meeting, April 12-14, 2005.
- NMRC hosted the Heavy Equipment Training Course, August 8-12, 2005.



**Participants of the Heavy Equipment Operators Instructors meeting (left) and the Heavy Equipment Training Course held at the NMRC in FY 2005. (H. Jones/USFWS)**

#### ***10b. Work Programs***

- The Youth Conservation Corps (YCC) was again a success. We employed four young men; two at NMRC, Greg Wilson and Nathan McRee, and two at Dahomey NWR, Ryan Lucas and Marcus Hester, who completed a variety of projects including: grounds maintenance, boundary posting and general maintenance.

#### ***10c. Equipment and Facilities***

The following are significant equipment purchases that were made during 2005:

- John Deere 850J bulldozer with cab
- John Deere 35C "Compact" excavator
- 37' Goose Neck trailer
- Rome model TAW-16 mould board plow
- Hercules 10 tire roller/packer
- A new 60' x 70' pole shed was constructed at the NMRC Headquarters.

## Staff Listing

The NMRC experienced some changes in staffing for FY05:

- Hal Jones was converted from Wage Grade Engineering Equipment Operator to the General Schedule as a Facilities Operations Specialist.
- Chris Lea, Kevin Riales, Jimmy Perry, and Carlton Leachman were hired as 1040 hour Equipment Operators.
- Tabitha Beach and Hal Moore were hired as STEP Students at NMRC Headquarters and Andrew Beachman at Dahomey NWR.

**Table 13. Staff list for the North Mississippi Refuges Complex for FY 2005.**

<b>Permanent Full-Time Employees</b>	<b>Grade</b>	<b>EOD Date</b>
Stephen W. Gard; Project Leader	GS-13	10/08/89
Robert Barkley; Refuge Manager	GS-12	05/28/92
Alejandro Galvan; Refuge Manager	GS-12	10/07/01
Kimberly Hayes; Assistant Refuge Manager	GS-9	11/16/03
Rebecca Rosamond; Wildlife Biologist	GS-12	02/03/01
Chuck Hayes; Private Lands Biologist	GS-12	11/16/03
Martin Holloway; Park Ranger	GS-9	10/31/04
Bobbie Willis; Office Automation Assistant	GS-7	09/28/98
Don Roby; Engineering Equipment Operator	WG-9	05/02/02
William Jones; Facilities Operations Specialist	GS-11	08/08/94
<b>Temporary Employees</b>	<b>Grade</b>	<b>EOD Date</b>
Chris Lea; Engineering Equipment Operator	WG-8	08/13/03
Jimmy Perry; Engineering Equipment Operator	WG-8	01/05/99
Kevin Riales; Engineering Equipment Operator	WG-8	5/15/05
Carlton Leachman; Engineering Equipment Operator	WG-8	5/15/05

# The NMRC Staff



**Stephen Gard**  
Project Leader



**Robert Barkley**  
Refuge Manager



**Alejandro Galvan**  
Refuge Manager



**Becky Rosamond**  
Wildlife Biologist



**Chuck Hayes**  
Private Lands  
Biologist



**Kimberly Hayes**  
Assistant Refuge  
Manager



**Bobbie Willis**  
Office Assistant



**Hal Jones**  
Facilities  
Operations  
Specialist



**Don Roby**  
Equipment  
Operator



**Chris Lea**  
Equipment  
Operator



**Jimmy Perry**  
Equipment  
Operator



**Martin Holloway**  
Park Ranger

Not Pictured:

Kevin Riales, Engineering Equipment Operator  
Carlton Leachman, Engineering Equipment Operator



## CREDITS

Alejandro Galvan:	3d, 5e, 6a, 10a, 10b
Becky Woods:	1a, 1b, 2a, 3a, 3b, 3c, 3f, 3g, 4a, 4d, 4e, 5a, 6c, 10a, technical assistance
Robert Barkley:	Introduction 9a, 9b, 10a, 10b, 10c
Steve Gard:	proof reading
Bobbie Willis:	9b
Chuck Hayes:	2c, 5c, 10a, proof reading
Kimberly Hayes	8a, 8b, 10a, proof reading
Hal Jones	10a, 10c
Martin Holloway	6a, proof reading